TECHNOLOGY DEPT.

November 27, 1940

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NATIONAL PETROLEUM NEWS

CATALYTIC ISOMERIZATION YIELDS HIGH PERCENTAGE OF ISOBUTANE

Isomerization of normal butane to isobutane has been accomplished in the laboratory at low temperature by using aluminum chloride as a catalyst.

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• • •

TUBULAR METAL SCAFFOLDS ADOPTED IN REFINERY

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• • •

ADDITION AGENTS IN ASPHALT IMPROVE ROAD CONSTRUCTION

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NEWS IN BRIEF

A.P.I. appoints committee chairmen to study methods of safeguarding oil industry. Page 13.

* * *

Mid-West to East Coast lower rail rates filed with ICC; to be effective Dec. 20. Page 13.

* * *

Texas Commission 'fight' is seen with Col. Thompson as central figure. Page 15.

* * *

Three factors loom in fuel oil picture for 1941 season. Page 13.

* * *

Technical papers scheduled for A.S.M.E. meeting in New York. Page 24.

A.P.I. elects 20 members to its refining division; others appointed by division head. Page 23.

* * *

FBI recommends floodlighting as means to safeguard oil plants. Page 13.

* * *

Papers of interest to refinery engineers will be presented at Chemical engineers meeting. Page 24.

* * *

Plan to re-write Interstate Oil Compact at December meeting. Page 22.

* * *

Kansas proration laws upheld, including 'log-log' method. Page 22.

REFINING TECHNOLOGY EDITION

STOP THE LETDOWN AFTER SUNDOWN—

Install TOKHEIM STATIONLITERS

Tokheim Stationliter pumps are a proved means of combating the "let down after sun down" from which many stations suffer. Combining ideal station illumination with the modern Tokheim pump—either Computer or Clock Dial, with or without Hose Reel features shown—Stationliters boost sales by providing more and better light where it is most needed—by improving a station's appearance. Decide now to install Stationliters soon. Write for Bulletin No. 307.

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"TAKE THE WORD OF MEN WHO KNOW"

TOKHEIM OIL TANK & PUMP CO.

DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT

FOR 39 YEARS

FORT WAYNE INDIANA

COMING MEETINGS

DECEMBER

Nebraska Petroleum Marketers Assn., Annual Convention, Fontenelle Hotel, Omaha, Neb., Mon.-Wed., Dec. 2-4.

American Institute of Chemical Engineers, New Orleans, La., Mon.-Fri., Dec. 2-6.

New Jersey Oil Trades Assn., Annual Meeting and Banquet, Robert Treat Hotel, Newark, N. J., Thurs., Dec. 5.

Oil Dealers Assn. of Arkansas, Convention, Little Rock, Ark., Thurs., Dec. 5.

Mid-Continent Oil & Gas Assn., Annual Joint Meeting of Standing Committee on State & Local Taxation, and Standing Committee on Federal Income & Excise Taxation, Hotel Tulsa, Tulsa, Okla., Thurs.-Fri., Dec. 5-6.

Kansas Oil Men's Assn., Convention, Hotel Broadview, Wichita, Kans., Mon., Dec. 9.

Oil and Gas Assn. of Michigan, Annual Meeting, Court House, Mt. Pleasant, N. Y., Mon., Dec. 9.

Petroleum Electric Power Assn., Heidelberg Hotel, Baton Rouge, La., Thurs.-Fri., Dec. 12-13.

National Asphalt Conference, Dallas, Tex., Mon.-Sat., Dec. 9-14.

South Dakota Independent Oil Men's Assn., 22nd Annual Convention, Coliseum Annex Bldg., Sioux Falls, Iowa, Tues., Wed., Dec. 10-11.

Petroleum Electric Power Assn., 12th Annual Meeting, Heidelberg Hotel, Baton Rouge, La., Thurs.-Fri., Dec. 12-13.

Mid-Continent Oil & Gas Assn., Annual Meeting of General Board of Directors, Tulsa Club Roof, Tulsa, Okla., Mon., Dec. 16.

JANUARY, 1941

SAE Annual Meeting (and Engineering Display), Book-Cadillac Hotel, Detroit, Mich., Jan. 6-10.

Liquefied Petroleum Gas Assn., Eastern Section, Regional Meeting, N. Y., N. Y., Jan. 16-17.

Compressed Gas Manufacturers Assn., Inc., Annual Meeting, N. Y., N. Y., Jan. 20-21.

Oil Trades Assn. of New York, Quarterly Meeting and Dinner, Waldorf-Astoria, New York, Jan. 21.

Northwest Petroleum Assn., Radisson Hotel, Minneapolis, Minn., Jan. 23-24.

FEBRUARY, 1941

Kentucky Petroleum Marketers Assn., 15th Annual Meeting and Convention, Brown Hotel, Louisville, Ky., Feb. 11-12.

Wisconsin Petroleum Assn., Annual Convention, Milwaukee, Wis., Feb. 11-13.

North Texas Oil & Gas Assn., Wichita Falls, Tex., Feb. 22.

Liquefied Petroleum Gas Assn., Inc., Annual Convention, Chicago, Ill., Feb. 24-25.

Iowa Independent Oil Jobbers Assn., Des Moines, Ia., Feb. 26-28.

American Petroleum Institute, Division of Production, Southwestern District, Washington-Youree Hotel, Shreveport, La., Feb. 27-28.

MARCH, 1941

Ohio Petroleum Marketers Assn., Deshler-Wallick Hotel, Columbus, Ohio, March 4-6.

American Society for Testing Materials, Hotel Mayflower, Washington, D. C., March 3-7.

National Dixie Distributors, Inc., Fort Worth, Tex., March 10.

American Petroleum Institute, Division of Production, Spring Meeting, Pacific Coast District, Biltmore Hotel, Los Angeles, Calif., March 11.

Indiana Independent Petroleum Assn., 1941 Spring Convention & Refiners' & Suppliers' Exhibit, Hotel Severin, Indianapolis, Ind., March 11-13.

Oil Burner Institute, Progress Exhibition, Commercial Museum, Philadelphia, Pa., March 17-22.

Oil Trades Assn. of New York, Annual Meeting, Waldorf-Astoria, New York, March 25.

APRIL, 1941

American Assn. of Petroleum Geologists, 26th Annual Meeting, Rice Hotel, Houston, Tex., April 2, 3 and 4.

American Chemical Society, St. Louis, Mo., April 7-11.

American Petroleum Institute, Division of Production, Wm. Penn Hotel, Pittsburgh, Pa., April 17-18.

Petroleum Industry Electrical Assn., Tulsa, Okla., April 23-25.

Natural Gasoline Assn. of America, Annual Convention, Baker Hotel, Dallas, Texas, April 23-25.

National Petroleum Assn., semi-annual meeting, Hotel Cleveland, Cleveland, O., April 24-25.

JUNE, 1941

American Society for Testing Materials, 44th Annual Meeting, Palmer House, Chicago, Ill., June 23-27.

SEPTEMBER, 1941

American Chemical Society, Atlantic City, N. J., Sept. 8-12.

NATIONAL PETROLEUM NEWS

NOVEMBER 27, 1940

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THIS WEEK WITH NPN

PENNSYLVANIA TURNPIKE

When better highways are built and better service stations line the road, NPN has at least one staff writer who will have to see to believe. For this writer recently completed a round-trip over the new 160-mile Pennsylvania Turnpike and is convinced that this super highway and its "made-to-order" service stations add a significant chapter to highway and service station history. For a quick—and we believe a comprehensive—glance at the much-talked about Turnpike and its service stations, see story on page 27. For additional information about "roads of the future", see page 35 of NPN, Oct. 30, 1940.

WAGE-HOUR

Last week's NPN news column told how a Tennessee Oil Marketer courageously took informal citation by the Wage-Hour Division to the courts for a judgment defining rights and liabilities of its employes and company. In this issue, NPN carries the test of the complaint and further news of the action. See page 13.

COAL INDUSTRY

In spite of definite disadvantages of coal heating as compared with oil heating, the Coal Industry is capitalizing on an aggressive merchandising program. Featuring the advantages of coal for heat, and stokers for automatic operation, coal industry is actively competing with oil for the residence heating market. See page 33.

NEXT WEEK

The profit possibilities offered independent marketers in the merchandising of thermostats and radiator hose is a feature of next week's NPN. The various types needed and methods of selling are told. Another article helps marketers prepare for Christmas by showing how to decorate for the holidays. Some successful decorating schemes that have been used to bring in holiday business, will be told.

ADVERTISING PAGES REMOVED

Use This Poster to Give Your Sales Forces "FACTS for Selling!"

Petroleum Engineering Bulletin
PUBLISHED BY NATIONAL PETROLEUM NEWS
For Full Protection
LUBRICATE EVERY 1000 MILES
In Winter's Zero Cold change Engine Oil
every 500 miles
or once a month
HERE IS WHAT THE ENGINEERS SAY:

Posters are printed in three attractive colors, and are 27 by 40⅞ inches in size. Illustrations and charts graphically point out the engineering "reasons why" it is important to lubricate at certain mileage or temperature points.

● To sell those profitable lubrication jobs, your sales forces need engineering FACTS to give the weight of authority to their sales talks. NPN's Petroleum Engineering Bulletins, hung in offices, service stations, lubritoriums, sales office or wherever your sales personnel can see them, will keep before them constantly FACTS that prove the need of proper lubrication for full protection. It gives them FACTS they should use in talking and selling lubrication, and because they are engineering recommendations of "outside authorities" they help back up your own lubrication campaigns.

One of these posters hung on the wall in front of your own and your sales executives' desks will be a constant reminder to them and you of the need of daily and hourly keeping the sales activities and enthusiasm of your selling force at its highest point. This poster gives them the facts to use—it will remind them to keep using those sales facts with every prospect. Order your supply of posters now so that your sales forces have "Facts for Selling".

3 Ways in Which This Poster Gets You SALES ACTION:

• This poster gets SALES ACTION for you by giving your sales force the engineering facts and data they can use in building sales talks and demonstrations.

• This poster prods your sales force into SALES ACTION by constantly reminding them to keep ASKING every motorist for that profitable lubrication job.

• This poster means more SALES ACTION because it reminds you of the need of putting maximum sales punch into your lubrication sales force—every day.

Prices of Posters

1 to	25 signs	25c each
26 to	50 signs	23c each
51 to	100 signs	21c each
101 to	500 signs	17c each
501 to	1000 signs	15c each
1001 and up—rates on application		

Remittance must accompany orders for 25 signs or less. Ohio purchasers please add 3% state tax. Signs sent postpaid.

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Test a Petroleum Engineering Bulletin in your office or service station for a day or two. Bulletin specially handled and wrapped in mailing tube, for trial, only 50c each.

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1213 W. Third St., Cleveland, Ohio

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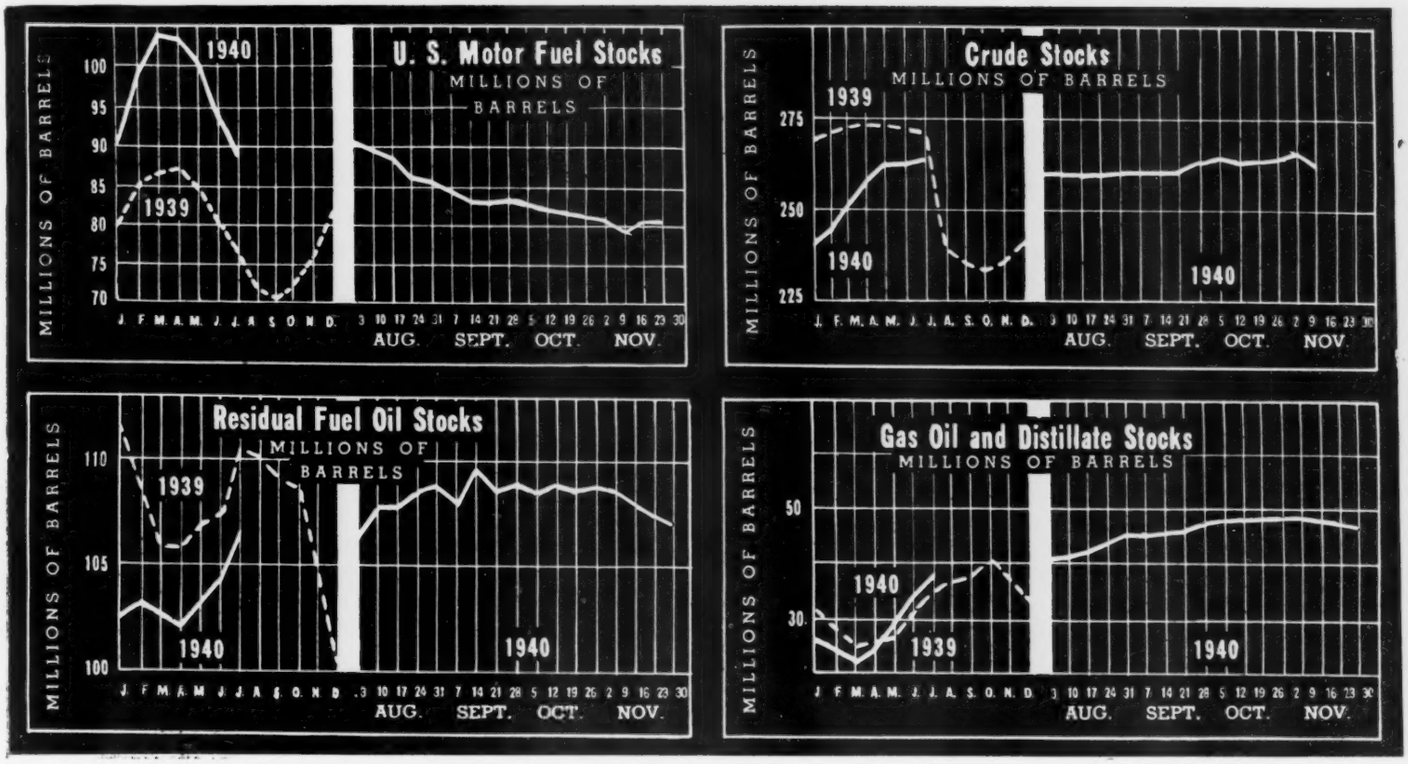
LATEST OIL INDUSTRY
· STATISTICS ·



A. P. I. Weekly Refinery Report

(Figures in Thousands of Barrels of 42 Gallons Each)

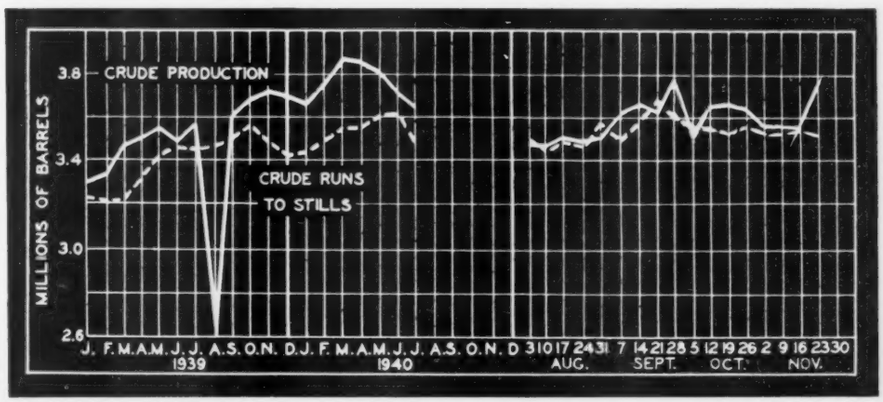
Districts	Daily Average Crude to Stills Week Ended		Per Cent of Reporting Capacity Operated Week Ended		†Gasoline Production Week Ended		Total Stocks Finished and Unfinished Motor Fuel‡ Week Ended		Total Stocks of Gas Oil & Distillates Week Ended		Total Stocks of Residual Fuel Oil Week Ended	
	Nov. 23	Nov. 16	Nov. 23	Nov. 16	Nov. 23	Nov. 16	Nov. 23	Nov. 16	Nov. 23	Nov. 16	Nov. 23	Nov. 16
East Coast	527	543	82.0	84.4	1,288	1,503	17,587	18,148	17,235	17,452	12,249	12,114
Appalachian	111	107	78.2	75.4	410	379	3,130	3,186	569	551	351	389
Ind. Ill. Ky.	562	581	83.9	86.7	2,184	2,242	13,856	13,747	5,543	5,884	3,442	3,532
Okla., Kans., Mo.	241	255	74.6	78.9	913	938	6,308	6,242	1,469	1,593	2,175	2,213
Inland Texas	117	120	70.1	71.9	494	499	1,614	1,616	410	406	1,551	1,538
Texas Gulf	868	866	90.9	90.7	2,641	2,635	12,634	12,718	8,812	8,555	8,847	8,871
La., Gulf	126	127	78.8	79.4	355	360	2,765	2,529	1,371	1,449	1,870	1,843
No. La., Ark.	48	46	92.3	88.5	125	135	434	417	334	340	529	537
Rocky Mt.	45	47	66.2	69.1	196	256	932	913	132	131	435	432
California	528	510	72.3	69.9	1,436	1,394	15,410	15,267	10,591	10,652	73,587	73,827
Total Reporting	3,173	3,202	81.2	81.9	10,042	10,341	74,670	74,783	46,466	47,013	105,036	105,256
U. S. Total**	3,510	3,540	....	....	11,315	11,666	80,100	80,063	47,511	48,108	106,871	107,151
U. S. Total 12-23-39**	3,497	.....	....	....	12,209	.....	75,980	.....	38,402	.....	111,207	.....

†Includes straight-run, cracked and natural blended. ‡Includes stocks at refineries, in bulk-terminals, pipe lines and in transit. §12% of reporting capacity in this district did not report gasoline production. **Estimated, U. S. Bureau of Mines basis. *Revised.

Crude Oil Production for the U. S.

(American Petroleum Institute figures)

	WEEK ENDED Nov. 23 Barrels	Nov. 16 Barrels
Oklahoma	400,100	399,900
Kansas	190,850	192,200
Nebraska	2,900	2,200
Texas	1,512,850	1,300,550
Louisiana	284,900	282,400
Arkansas	69,750	69,300
Mississippi	15,650	16,100
Illinois	329,650	343,150
Indiana	21,450	19,450
Eastern (Ill. and Ind. excluded)	88,100	87,650
Michigan	47,150	47,350
Wyoming	74,650	72,600
Montana	17,800	18,050
Colorado	3,350	3,400
New Mexico	100,850	100,850
California	605,900	621,400
Total U. S.	3,765,900	3,576,550
Crude Imports	127,570	106,860
Total New Supply	3,893,470	3,683,410



199 Ways to Cut Your Winter Costs!

Pre-Winter Check-up for PENNY LEAKS

One Little Drop of Gasoline May Cost You $10!

One little dripping of gasoline from a leaky valve or faulty pipe may cost you as much as $10 this winter! Or perhaps you may have to pay much more than that for expensive repairs or replacements of other equipment that was not checked before winter came. There are many "weak spots" that increase winter costs—through proper pre-checking you locate those profit-losing points in time for repair or replacement before winter sets in. Leaks, faults, breaks, excessive wear or deterioration must be checked now if you are to be ready . . . if you are to be certain that every piece of equipment will deliver 100% profitable service to you this winter.

199 Things to Check for Those Penny Leaks

NPN's Profit Inspection Booklet, "Pre-Winter Check-up for PENNY LEAKS" is a reminder and check-list covering equipment from "cellar to garret" in bulk plant and service station—also your trucks and automobiles. With this Check-up booklet you cover 199 weak points—pipe by pipe, valve by valve. You locate the equipment that needs repairing, repainting, or replacing—you get tuned up for winter profits.

NPN's "Pre-Winter Check-up for PENNY LEAKS" gives you a rigid inspection service that will make your employees alert to prepare equipment for efficient winter-operating condition.

Check-up . . . Then Check Again for Complete Safety

Start your Pre-Winter Check-up today . . . then in a short time Check-up again . . . use one of these cost-cutting tools in your bulk plant, in each service station, for every truck and automobile. Know what has to be done before winter comes. You'll find NPN's "Pre-Winter Check-up for PENNY LEAKS" the best investment you can make to stop winter losses and build your profits. Send in your order today—prices and handy order blank are below.

PRICES OF "PENNY LEAKS"

1	to 10 copies	15c each
11	to 25 copies	14c each
26	to 50 copies	13c each
51	to 100 copies	12c each
101	to 500 copies	11c each

Over 500 copies—special prices on application. Ohio purchasers please add 3% for state tax. Remittance must accompany orders for 500 booklets or less. All booklets sent postpaid.

CLIP AND MAIL THIS ORDER BLANK TODAY

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1213 West Third St., Cleveland, Ohio

Attached find check or money order covering ..... copies of your Profit Inspection Service booklet—"Pre-Winter Check-up for PENNY LEAKS." Rush these so that we can start getting ready for winter.

Name ..... Company .....

Street address .....

City ..... State .....

· STATISTICS ·

N.P.N. Gasoline Index

	T.W. Dealer	Car Tank
	Cents Per Gallon	
Nov. 25	8.69	5.02
Month ago	8.69	5.09
Year ago	9.64	6.23

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of 9 wholesale markets for regular-grade gasoline.

Inventories, Oct. 31, 1940, of Pennsylvania Oils Other Than Lubricating Oils

(Compiled by National Pet. Ass'n. from reports of oil region refiners. Figures in barrels)

NAPHTHAS & GASOLINE	
(1) Straight run, unblended and/or unleaded, for sale as motor fuel	10,954
(2) Naphtha and gasoline, for sale for blending or further refining, or held at refinery for further distillation, reforming, blending or leading	165,851
(3) Below 65 octane, not included in (1) or (2) above	4,840
(4) 65 octane and above	214,864
Salable naphthas other than motor fuel material (does not include Refinery Process naphthas)	24,527
Kerosine	90,956
36/40 gas oil (includes furnace oil)	75,614
Fuel Oil (not reported above)	28,607
Oils held as cracking plant charging stocks	277,408
Non-viscous neutral	21,164
Wax distillate	87,366
Crude petrolatum	13,321
Wax (lbs.)	3,371,464

Production and Inventory of Pennsylvania Lubricating Oils

(Compiled by National Petr. Ass'n. from reports of all companies which refine Penna. crude. Figures are for Oct. 1940, and in bbls. of 42 U. S. gals.)

	Production	Inventory
RAW LONG RESIDUUM (includes all raw long residuum below, and not salable as, 600 fire)	84,572	37,793
600 STEAM REFINED STOCK (includes all steam refined stock commonly sold or used as 600 and as raw material for bright stock)	262,838	269,477
OTHER STEAM REFINED STOCK (not included in above)	61,867	124,763
FINISHED DEWAXED LONG RESIDUUM	52,024	61,090
BRIGHT STOCK (does not include any material reported in above product)	151,429	437,020
VISCOUS NEUTRAL, below 180 vis. but not below 142 vis. at 100	60,058	73,766
VISCOUS NEUTRAL, 180 vis. at 100 and above	97,558	114,037

G.C.R.A. Statistics

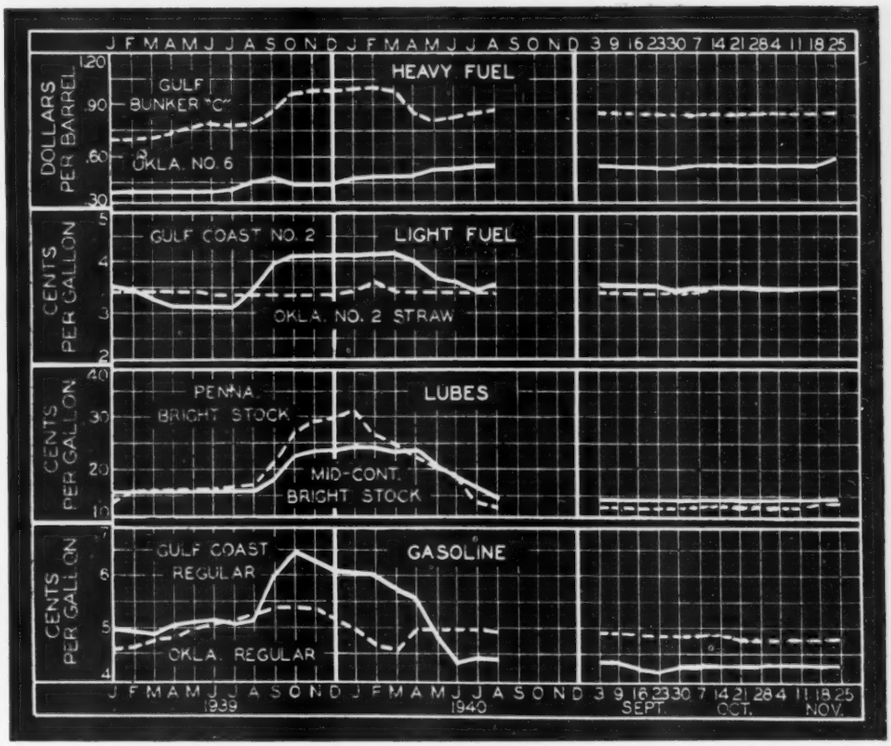
U. S. Bureau of Customs announced preliminary figures on imports of crude petroleum and fuel oil within quota limitations provided under trade agreements, covering the period Jan. 1 to Nov. 2, 1940, as follows: (in gallons)

	Established quota for Calendar Year	Imports as of Nov. 2, 1940
Venezuela	1,869,014,616	1,240,934,547
Netherlands	527,691,192	500,811,293
Colombia	103,978,560	18,375,869
Other countries (mostly Mexico)	98,779,632	(Tariff rate quota filled)

G. C. R. A. Statistics

	Nov. 1 change over Oct. 15
Gasoline Stocks	—270,239
Aviation Gasoline Stocks	—105,078
Motor Fuel Stocks	—172,288
Crude Runs (daily av.)	+ 4,266

REFINERY TANK CAR PRICES



FORECAST OF U. S. MOTOR VEHICLE REGISTRATIONS FOR 1940*

(Compiled by "Automotive Industries", Philadelphia)

	Passenger Cars		Trucks and Buses		Total Motor Vehicles		Per Cent
	1940	1939	1940	1939	1940	1939	Change
Alabama	271,300	251,796	60,560	56,008	331,860	307,804	+7.8
Arizona	110,000	106,924	25,000	24,431	135,000	131,355	+3.0
Arkansas	187,545	179,175	65,199	61,541	252,744	240,716	+5.0
California	2,430,000	2,295,292	340,000	309,855	2,770,000	2,605,147	+6.2
Colorado	331,500	312,847	30,500	30,636	362,000	343,483	+5.6
Connecticut	408,000	385,822	72,000	67,441	480,000	453,263	+6.0
Delaware	59,400	56,744	11,200	11,248	70,600	67,992	+4.0
District of Columbia	157,500	149,745	15,600	14,928	173,100	164,673	+5.1
Florida	413,000	379,868	82,000	77,351	495,000	457,219	+8.2
Georgia	408,738	386,002	94,861	88,236	503,599	474,238	+6.1
Idaho	127,500	121,484	33,000	31,340	160,500	152,824	+4.9
Illinois	1,700,000	1,626,689	230,000	232,888	1,930,000	1,859,577	+4.0
Indiana	872,000	822,946	130,320	130,949	1,002,320	953,895	+5.0
Iowa	685,534	670,080	99,765	93,139	785,299	763,219	+3.0
Kansas	476,000	475,464	100,000	99,008	576,000	574,472	+0.3
Kentucky	389,000	367,215	73,600	70,295	462,600	437,510	+5.6
Louisiana	281,129	263,942	89,502	89,576	370,631	353,518	+5.0
Maine	166,500	157,171	44,000	41,852	210,500	199,023	+5.8
Maryland	384,940	364,064	61,773	59,091	446,713	423,155	+5.8
Massachusetts	804,088	761,363	114,906	111,465	918,994	872,828	+5.2
Michigan	1,695,000	1,031,175	92,000	90,796	1,187,000	1,121,971	+5.8
Minnesota	745,000	721,217	124,940	118,483	869,940	839,700	+3.5
Mississippi	190,370	185,475	59,335	58,611	249,705	244,086	+2.2
Missouri	770,000	734,894	152,000	142,200	922,000	877,094	+5.0
Montana	142,000	135,839	48,000	44,480	190,000	180,319	+5.6
Nebraska	352,000	344,278	66,500	65,805	418,500	410,083	+2.6
Nevada	36,000	32,586	8,300	8,185	44,300	40,771	+8.8
New Hampshire	104,509	102,509	25,464	24,964	129,973	127,473	+2.0
New Jersey	937,491	881,727	143,575	137,810	1,081,066	1,019,537	+6.2
New Mexico	91,918	93,153	28,573	28,488	120,491	121,641	—0.8
New York	2,366,483	2,299,803	346,945	383,206	2,713,428	2,683,009	+1.0
North Carolina	504,200	477,588	87,250	81,999	591,450	559,587	+6.0
North Dakota	145,203	142,384	36,411	34,683	181,614	177,067	+2.4
Ohio	1,800,000	1,702,761	192,000	184,223	1,992,000	1,886,984	+5.7
Oklahoma	481,121	455,771	106,988	100,392	588,109	556,163	+5.8
Oregon	323,843	305,943	72,283	63,387	396,126	369,330	+7.2
Pennsylvania	1,865,787	1,824,567	276,495	274,667	2,142,282	2,099,234	+2.1
Rhode Island	162,867	154,916	23,321	20,152	186,188	175,068	+6.2
South Carolina	272,000	256,574	46,300	44,142	318,300	300,716	+6.0
South Dakota	162,000	158,821	31,615	30,385	193,615	189,206	+2.3
Tennessee	356,400	341,250	65,000	66,242	421,400	407,492	+3.2
Texas	1,337,167	1,281,566	349,849	336,299	1,687,016	1,617,865	+4.1
Utah	115,340	110,980	22,535	21,891	137,875	132,871	+3.7
Vermont	83,000	81,041	9,695	9,672	92,695	90,713	+2.0
Virginia	413,000	383,222	74,900	69,521	487,900	452,743	+7.8
Washington	476,000	449,706	88,800	86,093	564,800	535,799	+5.2
West Virginia	245,963	221,182	49,547	47,169	295,510	268,351	+9.8
Wisconsin	746,500	702,625	86,280	142,266	832,780	844,831	—1.2
Wyoming	67,000	65,309	19,200	18,090	86,200	83,399	+3.5
Total	27,051,836	25,813,495	4,507,887	4,435,519	31,559,723	30,249,014	+4.2

*Based on actual returns to date plus an estimate for the remaining period of the year as furnished by the motor vehicle commissioners of the various states.

Chairman of Petroleum Refiners Division

Webb R. Charles

● The Petroleum Refiners Division of the National Assn. of Credit Men has elected to chairmanship a man who believes in a closer relationship between customer and credit manager. That man is Webb R. Charles of Wichita, Kans., credit manager of Globe Oil & Refining Co.

Mr. Webb knows all his company's customers personally and has first-hand information regarding the customers' problems and general operating conditions, it is said.

Born at Knob Noster, Mo., the new chairman graduated from Missouri University in 1927 with an A. B. degree in business administration and law. He was admitted to the bar in 1928, but chose credits as his field. Since graduation, Mr. Charles' experience has covered both the retail and wholesale credit fields within the oil industry. In April 1933, he took his present position as credit manager for the Globe company.

NATIONAL PETROLEUM NEWS

VOLUME 32 WEDNESDAY, NOVEMBER 27, 1940 NUMBER 48

Anti-Trust Suit Answers Filed By Defendants

N. P. N. News Bureau

WASHINGTON, Nov. 25.—Five defendants have filed individual answers with the District of Columbia Federal District Court in the Justice Department's anti-trust suit filed Sept. 30 against American Petroleum Institute, Ethyl Gasoline Corp., 22 major oil companies and their alleged affiliates.

Dismissal of the suit insofar as they are concerned is asked by 4 of the defendants: Hardrock Oil Co., Great Falls, Mont.; Treasure State Pipe Line Co., Sunburst, Mont.; and Midwest Oil Co. and Mountain Producers Corp., both in Denver. Fifth defendant, Petroleum Transit Corp., Detroit, asserts government's complaint "fails to state a cause upon which relief can be granted."

Hardrock says in its answer that Standard Oil Co. of Indiana now owns less, and never has owned more than 20% of its issued and outstanding capital stock, and that its only relationship with Stanolind has been the latter's voting of its stock at Hardrock shareholder meetings. Neither Standard Oil Co. of Indiana nor any other of the defendants named in the oil suit, have ever owned any of its stock, Hardrock asserts.

Treasure State Pipe Line says it acquired, Feb. 21, 1940, the 50% of its capital stock owned by Ohio Oil Co. from May 14, 1927, and that Ohio has never controlled its enterprise or has Treasure State ever engaged in the production, refining, transportation or marketing of crude oil.

Petroleum Transit denies in its answer that it is within the jurisdiction of the District of Columbia court, admitting, however, that it has filed tariffs as a common carrier with the Interstate Commerce Commission. Company was listed in complaint as having Socony, Pure, Shell, Cities Service, Stanolind, Atlantic, Sohio, and Esso "affiliations."

Both Midwest and Mountain Producers deny they are subsidiaries or affiliates of Standard Oil Co. of Indiana or of any of the other 365 defendants.

Federal Court has given more than 200 other defendants until Jan. 15 to file their answers. Complaint has now been served on 340 defendants, Justice Department reports.

FBI Advocates Floodlighting in Plants To Protect Industry Against Sabotage

N. P. N. News Bureau

WASHINGTON, Nov. 26.—Federal Bureau of Investigation's suggestions for protection of industrial plants against sabotage state that adequate fencing, screening and illumination are the three most important factors in preventing unauthorized entry.

No plant area, the FBI points out, should be so poorly lighted as to enable a trespasser to proceed to any point within the plant premises without readily being observed by guards on duty. All exterior floodlighting systems should be located within the fenced area and should particularly illuminate areas immediately surrounding all buildings. Interiors of plants should also be adequately illuminated at night.

Copies of the 50-page book, entitled "Suggestions for Protection of Industrial Facilities", are available, to oil companies and other plants supplying government with defense materials, from Federal Bureau of Investigation, Department of Justice, Washington, D. C. (See N.P.N. Nov. 20, page 20).

Single Grade of Gasoline Recommended For All Motor Needs, Except Airplanes

N. P. N. News Bureau

WASHINGTON, Nov. 23. — Army is now investigating the question of a single standardized gasoline to meet all gasoline motor requirements, except aviation needs.

Dr. R. E. Wilson, Defense Commission Oil Advisor, has recommended the Army settle on a single gasoline of a type readily available in large quantities for all its mechanized equipment.

Army, at the moment, is struggling with the problem of gasoline supply for the half of its new tanks which are equipped with Wright airplane engines designed for 90-octane gasoline. Remaining tanks have Continental engines which are said to operate more satisfactorily on Ethyl motor fuel.

High temperatures in the tanks under combat conditions are reported as creating serious vapor-lock. This and other problems relating to gasoline for tanks is being studied in connection with tests now underway in California.

Reduced Mid-West to East Coast Rates Filed With ICC by Freight Association

N. P. N. News Bureau

CLEVELAND, Nov. 25.—Central Freight Assn. Tariff Bureau has filed with the Interstate Commerce Commission Supplement No. 33 to Freight Tariff No. 218-M, calling for reduced rail rates on crude and fuel oil from Mid-Western points of origin to Eastern Seaboard and intermediate destinations (NPN, Nov. 20, page 13). Rates, as filed with the ICC, are to become effective Dec. 20, and to expire June 30, 1941.

Origins listed in the supplement filed with the ICC include St. Louis and Chicago areas, as well as southern Illinois and central Michigan refining centers, and intermediate points as far east as Canton, Ohio.

Rates on fuel oils, as filed with the commission range from 23 to 28c per hundredweight from destinations in the Middle West to the eastern seaboard areas of New York harbor, Philadelphia, Baltimore and Washington.

From the St. Louis area, and southern Indiana and Illinois points, the rate on fuel oils to New York, Philadelphia and Baltimore areas is 28, 26 and 25c per cwt., respectively ($0.87, 0.808, and 0.777 per bbl.)

From Chicago area, and from Michigan and points intermediate to these east coast destinations, the tariff lists rates of 25c 24c and 23c per cwt., respectively ($0.777, 0.745, and 0.714 per bbl.)

Proposed crude rates of 25c to 28c per hundredweight to New York harbor area, the Philadelphia area, Baltimore and Washington apply from points of origin in southern Illinois and Indiana. Rates for crude from western Ohio to these areas range from 23 to 25c per cwt. (See pages 13 and 25 for other stories on Middle West to East Coast rate developments.)

3 Factors Loom In Fuel Market For 1940-1941

N. P. N. News Bureau

CLEVELAND, Nov. 25.—As the heavy consuming season for fuel oil swings into its own over the northern sections of the country, principally on the East Coast, the largest concentrated market for light heating oils, several factors loom large in the interest of fuel oil marketers. Principal among these are: supply, freight rates, and weather conditions.

The industry has entered the consuming season with stocks of light heating oil at an overtime high, but with U. S. inventory of heavy grades of fuel more than 5,000,000 bbls. below the same period last year. Stocks of heavy oil at principal marketing areas, east of California, however, are ahead of last year.

Sharply higher tanker rates this year, compared with those paid at the start of the heating oil season of 1939 and proposals to reduce rail rates on fuel oils from the Middle-West and intermediate points to the eastern seaboard threaten to add more confusion to the general fuel oil picture, marketers believe.

Weather conditions of the coming winter are as always of paramount importance to the fuel oil industry. While the 1939-1940 season was around 18% colder than the year previous, temperatures were about 2% above normal. If normal weather conditions prevail during the current season, marketers have estimated that fuel oil consumption on the eastern seaboard would increase about 10%.

Current Stock Position

A study of the current stock position of fuel oil, compared with last year, shows that the industry for the country as a whole had on hand Nov. 16, 1940 8,815,000 bbls. more gas oil and distillate than on Nov. 18, 1939, the nearest comparable date. This represents an increase of 22.4% over light fuel stocks of last year.

Stocks east of California accounted for nearly all of the country's gain—8,066,000 bbls. being added to storage east of the Rockies. Stocks on the eastern seaboard accounted for more than half of the nation's gain, mounting 4,264,000 bbls.

Following tables compare

(*Continued on Page* 23)

API Appoints Men to Study Oil Sabotage

N. P. N. News Bureau

NEW YORK, Nov. 22.—Following preliminary steps taken by the American Petroleum Institute in its study of methods for safeguarding oil storage facilities from sabotage and military attack, which were announced by the A.P.I. at its annual convention in Chicago (See N.P.N., Nov. 13), defense preparations of the industry moved forward today with the appointment of chairmen and vice chairmen to the 5 regional committees, whose job it will be to determine defense measures necessary for their respective districts.

Appointments were made by W. R. Boyd, Jr., executive vice president of the A.P.I., at the request of the advisory commission to the Council on National Defense.

In addition to the chairmen and vice chairmen of the regional committees, Mr. Boyd named three more members to the national policy committee on safeguarding oil storage, of which W. S. Farish, Standard Oil Co. (N. J.), is chairman. This committee will see that the study is kept to practical methods and will also study methods proposed for financing whatever steps may be finally agreed upon for additional protection of gasoline storage tanks.

Other Committeemen

Additional members named to the national committee are: Frank Buttram, Oklahoma City, president, Independent Petroleum Assn. of America; C. L. Henderson, Wichita, Kans., president, Western Petroleum Refiners Assn.; and C. L. Suhr, Oil City, Pa., executive vice president, National Petroleum Assn.

Organization of the 5 regional committees was speeded with the appointment of chairmen and vice chairmen as follows: Northeastern Regional Committee, E. H. Barlow, Standard Oil Development Co., and R. W. Black, Standard Oil Co. of New Jersey, both of Elizabeth, N. J.; Southeastern Regional Committee, Wiley L. Moore, Wofford Oil Co., and H. A. Grumann, Sinclair Refining Co., both of Atlanta, Ga.; Great Lakes Regional Committee, L. S. Wescoat, The Pure Oil Co., and P. L. Krauel, Standard Oil Co. (Ind.), both of Chicago; Central Regional Committee, J. C. Hunter, Abilene, Tex., president, Mid-Continent Oil & Gas Assn., and R. C. Powell, The Texas Co., Houston, Tex.; Western Regional Committee, R. A. Sperry, and B. A. Moeller, both General Petroleum Corp. of California, Los Angeles. First named in each region is chairman; second is vice chairman and secretary.

Members of the respective regional committees are expected to be named in a few days.

U. S. All Set to Construct Aviation Gasoline Storage

N. P. N. News Bureau

WASHINGTON, Nov. 23. — Army and Navy are now ready to go ahead with construction of large central aviation fuel storage facilities, which will permit the buying and storing of the proposed 100-day wartime reserve of 100-octane gasoline.

These large dumps will be strategically located through the country, where several forms of transportation are available to rush 100-octane fuel to the smaller dumps located in surrounding territory at Army and Navy bases and civilian airports.

Building of the smaller storage facilities is nearing completion. Such dumps are located in the various states and U. S. possessions, are designed to store no more than 2 or 3 weeks supply of 100-octane gasoline and range in size from a few drums stored at isolated points to substantial underground tankage at important Army and Navy aviation centers.

New central storage plants where 100-octane gasoline will be stored in bulk have been designed by a committee of oil company engineers cooperating with Dr. R. E. Wilson, Defense Commission Oil Advisor. Present Army-Navy plans indicate 3,000,000 barrels of 100-octane aviation fuel will have been purchased by the end of 1941.

High Octane Aviation 'Gas' To Be Made in Western Canada

Special to N. P. N.

OTTAWA, Nov. 23.—It is understood that the first company to make high octane aviation gas in western Canada will be British American Oil Co. in its new refinery at Calgary. It will be followed in short order by the Imperial Oil refinery in the same city, it is reported. Production in the British American Oil Co.'s refinery will begin almost immediately and deliveries will be made direct to aviation schools and training centers in Western Canada of the Commonwealth Air Training scheme.

Tennessee Wage-Hour Suit May Rule Borderline Cases

N. P. N. News Bureau

WASHINGTON, Nov. 23. — Case of the Thoni Oil Co. directs attention to the devious boundary line drawn by the government between non-exempt marketing and exempt retailing of gasoline for the enforcement of the Wage-Hour Act, according to Wage-Hour Division attorneys.

Thoni, a Nashville, Tenn., marketer, operates a group of filling stations. The company buys gasoline in tank-car lots from refiners outside the state. It has asked the state courts for a declaratory judgment on the application of the Wage-Hour Act to seven employes helping in the distribution of such gasoline to its filling stations. (See N.P.N. Nov. 20, page 13.)

First complex borderline situation involved in the Thoni case arises from Wage-Hour Division efforts to stretch its definition of wholesaling to bring as many employes as possible under the Act.

Government Gives View

In the Thoni case, Wage-Hour lawyers take the view that the unloading of gasoline from tank cars into a nearby storage tank and its subsequent delivery in in tank trucks constitutes a wholesale operation. The unloading of gasoline directly into tank trucks for filling station delivery, also is regarded as a wholesale operation by Wage-Hour attorneys. The fact that 7 employes making filling station deliveries spent more than 50% of their time working around filling stations does not grant them a retail exemption from the Wage-Hour Act, since an employe who spends any part of his time at wholesale work during any week is under the Act for that week, Wage-Hour lawyers claim.

Thoni had one tank truck making deliveries to its filling stations, which were driven by various employes and, according to Wage-Hour legal experts, this focusses attention of the fact such employes might be subject to the law under one set of circumstances and exempt under another.

If the employes driving the tank truck made deliveries of gasoline solely to the stations at which they are employed, they more than likely are exempt from the Act, Wage-Hour lawyers say, adding that if each filling station had its own tank truck to send to the railroad siding, the case for exemption would be strengthened. However, if the driver made deliveries to filling stations other than the one where he worked, he would be under the Wage-Hour Act, it is asserted.

No ICC Jurisdiction

Interstate Commerce Commission lawyers feel their agency has no jurisdiction as to maximum hours over tank truck drivers such as those in the Thoni case. If the court should decide that Thoni tank truck drivers are not retail employes and not exempt from the Wage-Hour Act, contentions of the company to the contrary, and otherwise establish the Wage-Hour Division's jurisdiction, such drivers will be subject both to the Wage-Hour Act's minimum wage and its maximum hour limitations requiring payment of time-and-a-half for hours over 40 per week.

Following is complete text of Thoni Oil Co. complaint to the Davidson county (Tennessee) court, in which definition of the rights and liabilities of both the company and employes with regard to the federal wages and hours law is asked:

IN PART TWO CHANCERY COURT DAVIDSON COUNTY, TENNESSEE:

THONI OIL COMPANY, a partnership composed of EMIL THONI, ADA H. THONI, and EMIL THONI, JR., all residents of Davidson County, Tenn.

Complainants

Vs

J. W. CARRIGAN, HARDIN ETHRIDGE, JAMES HICKSON, J. V. JOHNSON, FRED MABRY, HAROLD MAYBERRY, E. M. POLK, MITCHELL POLK, CHARLES SEAGRAPH, MELVIN SETTLES, J. L. ZIMMERLEE and CHAS. H. KING, all residents of Davidson County, Tennessee.

Defendants

Complainants would respectfully show to the Court as follows:

1.

That the Thoni Oil Company is a partnership composed of the persons named in the caption. It is engaged in the "filling station business" and has some seven stations in Nashville and Davidson County, Tennessee, whereat it sells gasoline and oil to retail purchasers in the usual way of such businesses. It does not sell at wholesale and all its sales are made locally at its station in Davidson County, in purely intrastate commerce.

2.

For the more convenient operation of its business and to enable it to sell gasoline at a cheaper price, it buys gasoline in carload lots from refineries without the State and has such cars delivered to it on a spur track on the rear of the property of L. T. Lewis & Co., 517 Main Street, Nashville, Tennessee, which place is about three blocks from its Main Street station. The Thoni Oil Co., pays a rental to Lewis & Co. for the privilege of using said spur track and for the right to install and use an underground tank, next to the spur track, into which the

contents of the railroad cars are from time to time unloaded by a pipe connection with the tank cars and from which underground tank its truck is loaded from time to time for delivery of the gasoline to its retail filling stations.

3.

For the purpose of unloading these railroad cars into this underground receptacle, Thoni Oil Company employs Emil Thoni—one of the complainants—and it is his business to make the necessary pipe connections to convey the contents of the tank cars into the underground tank. No one else is supposed to, or required, to assist in this work or have anything to do with same and it is a work which one man can easily do.

4.

In addition, as stated, Thoni Oil Company owns and operates a truck, with suitable body, to transport the gasoline from this underground tank to its several retail filling stations.

Thoni Oil Company receives, on an average, two or three railroad cars per week loaded with gasoline and less than half their time is employed by such truck drivers in loading, driving and unloading this into truck. The remainder of their time is expended in helping the other employes in and about the retailing of gas and oil at the stations.

5.

All the defendants named in the caption were employed by the Thoni Oil Company as such truck drivers, from time to time, at different times, in succession to one another, and were duly paid in full the wages for which they contracted to work.

6.

Lately all or some of them have been induced to go before the United States Department of Labor, Wage and Hour Division, at its Nashville office, and make complaint against Thoni Oil Company for alleged unpaid minimum wages and over-time compensation under what is known as the Federal "Fair Labor Standards Act of 1938," as amended, passed June 25, 1938, Ch. 676, 52 Statute at Large 1060. They said Nashville office has informally cited Thoni Oil Company to show cause why it should not pay the named defendants their claims for alleged unpaid minimum wages and alleged unpaid overtime compensation and Thoni Oil Company alleges that unless it yields to said demands it will be proceeded against in the Courts.

Complainants have had several interviews with the officials of the Nashville Office. The claim made on behalf of the named defendants is that they were all engaged in interstate commerce and, therefore, within the Act because, so it is claimed, they assisted in unloading the railroad cars into the underground tank, or, at times, directly into the trucks, and made subsequent deliveries to the stations; and further, because the part of Thoni Oil Company's business connected with the spur track, underground tank and truck deliveries constitutes, within the meaning of the Act, a separate "establishment" from the remainder of Thoni Oil Company's business and all employes of such alleged "separate establishment" come under and within the provisions of the Federal Act.

This contention is denied by complainants. The Act expressly exempts from the coverage of the Act (U. S. C. A. title 29, Sec. 213) the following businesses inter alia:

"213. Exemptions.

(a) The provisions of sections 206 and 207 shall not apply with respect to (1) any employe employed in a bona fide executive, administrative, professional, or local retailing capacity, or in the capacity of outside salesman (as such terms are defined and delimited by regulations of the Administrator); or (2) any employe engaged in any retail or service establishment the greater part of whose selling or servicing is in intrastate commerce; . . . . . ."

It is the contention of Thoni Oil Company that the defendants fall within both the exemptions mentioned in exception one and two above and, therefore, defendants are not within the true intent and meaning of the Act, also that the claim made that Thoni Oil Company, a unit, a retailing or service "establishment" can be segregated or divided up into separate establishments, as insisted upon, is unsound and untrue. The claims of the defendants will run into many hundreds of dollars.

6.

On the facts stated complainants are advised they have a right to come into your Honor's Court, under the Declaratory Judgment Act of Tennessee (Acts 1923, Ch. 27), in order to have their liability, if any, to the defendants defined and decided.

7.

Premises considered, complainant prays:

1. For process and copy of the bill to issue and be served upon the defendants, but their answer under oath is waived.
2. For a declaratory judgment defining and settling the respective rights and liabilities of parties, both complainants and defendants.
3. For general relief.

Solicitor for
Thoni Oil Company

Private Truck Drivers Offered New Booklet

WASHINGTON, Nov. 23. — "Rules for Drivers", is title of a 26-page pocket-size pamphlet put out by the National Council of Private Motor Truck Owners Inc., for benefit of drivers of private motor truck owners. Booklet contains Interstate Commerce Commission regulations affecting drivers and instructions for use of driver's daily log.

Texas Commission 'Fight' Is On With Thompson Central Figure

Special to N.P.N.

AUSTIN, Nov. 23.—Prospects of a new oil and gas regulatory body for Texas grew this week, with opponents of the present commission's policies dragging their heavy artillery into place and a court opinion clouding the status of Commissioner Ernest O. Thompson.

In the event any changes occur, an appointee, or appointees, of Gov. W. Lee O'Daniel apparently will hold the power.

While the Texas Supreme Court again refused to hold that a state employe must resign his job when he becomes an officer in the United States army, the opinion intimated that federal laws would bar that employe from holding his army commission.

In refusing to rehear the petition of Attorney General Gerald Mann for a ruling barring Maj. Orville S. Carpenter from holding his state job as director of the Texas Unemployment Compensation Commission, the court stated that there is no state law prohibiting dual posts. The Texas constitution was quoted as providing that a state employe who becomes an officer in the army via the Texas National Guard may collect both his state and federal salary, and remain active in both jobs.

Assistants in the attorney general's office told NATIONAL PETROLEUM NEWS that so far there have been no requests from any quarter that the attorney general pursue the case to federal court. Political circles in Austin, however, were certain that the Supreme Court of the United States will be asked to rule on the matter. If Col. Thompson resigns from the commission, Gov. O'Daniel would appoint his successor.

Strong Lobby Seen

The impending legislative fight to establish a separate oil and gas commission, visible at first only in isolated outbreaks over the state, is apparently gaining momentum. A strong lobby is already being established in Austin and legislative veterans are expecting a bitter fight when the legislature convenes in January.

A former state senator, representing a group of West Texas independents, is reported to be destined to lead the fight. He has had an Austin office established for some time, with court reporters present at every railroad commission hearing to take down complete testimony.

It is also reported that 3 separate bills calling for a new oil and gas regulatory body have been written to present to the legislature. All provide that three-man commissions shall be appointed by Gov. O'Daniel, with staggered terms to allow each succeeding governor to appoint, under normal conditions, only one member of the board.

It is believed Humble Oil and Refining Co. touched off the opening gun of the fight at the recent state-wide proration hearing, when it brought out its proration plan (N.P.N., Nov. 20, 1940, p. 14) which was met by an immediate thumbs down from both Mr. Thompson and Commissioner Jerry Sadler. Hines Baker, representing Humble, explained that Humble's plan would allow a more equitable distribution of production quotas. Mr. Thompson and Mr. Sadler charged Humble was disgruntled because the commission would not allow it "to run the whole show."

The struggle between different factions of the oil industry over establishing a separate oil and gas commission is one of several years standing.

Thompson Proposes 32% Cut For Texas' Proration Order

BULLETIN

Special to N. P. N.

AUSTIN, Nov. 20. — Texas Railroad Commission late this afternoon issued a 60-day production order for Texas effective Dec. 1, calling for 9 monthly shutdown days. Order allows net daily statewide allowable of 1,316,657 bbls.

Shutdown exemptions allowed in Panhandle and several other fields. Net allowable is only a few barrels over the Bureau of Mines estimate of market demand.

* * *

AUSTIN, Nov. 23.—Commissioner Thompson this week suggested how Texas Railroad Commission could write December oil proration order, if it is to abide by Bureau of Mines' estimate.

Plan calls for cutting total nominations for each field by ratio of difference between nominations and Bureau figures, amounting to about a 32% cut in some fields. Mr. Thompson doubted producers would be pleased and said Commission hasn't discussed any plan yet. Indications are that whatever proration plan Commission adopts, it will be for 60 days to replace present 90-day order.

Texas producers today were speculating as to what Commission would do after final session on state-wide hearings on allowables.

Not a single oil company representative among 300 attending requested commission to reduce in any given field. All reaffirmed purchasing nominations, and nearly all pleaded for increased production.

Secretary Knox Favors Underground Oil Storage

N. P. N. News Bureau

WASHINGTON, Nov. 25.—Navy Department is much interested in underground storage of gasoline, fuel oil and other war-essential petroleum products, according to Navy Secretary Knox.

The secretary said today that his discussions with oil company engineers had convinced him that underground storage would be advantageous even in peacetime, adding that it would last forever.

He was asked about the problem of corrosion and replied that would be no problem as the underground tanks would be built of concrete, painted inside.

Independent Jobber Hearings Scheduled for December 17

Special to N. P. N.

MINNEAPOLIS, Nov. 23.—Federal Court hearings for 35 independent jobbers from whose complaints defendants will ask to strike certain portions, and re-define others—will be heard here Dec. 17 before Judge Gunnar H. Nordbye. Defendants are expected to ask continuance.

Treble damage suit of Twin Ports Oil Co., Duluth, first lawsuit based on Madison antitrust oil convictions was dismissed Oct. 15 by Judge Nordbye who directed a verdict for the defendant, Pure Oil Co.

Defendants are same major oil companies convicted in Madison cases. Action in other courts is awaited on more than 15 additional cases.

Following are 35 independent jobbers seeking damages from major oil companies:

Albert's Super Service, Oconomowoc, Wis.; Badger Oil Co., McFarland, Wis.; Buth Oil Co., Appleton, Wis.; Cardos Oil Co., Kankakee, Ill.; Citizens Independent Oil, LaCrosse, Wis.; Clark Oil Co. & Plymouth-Clark Oil Co., Plymouth, Wis.; Community Oil Co., Greenbay, Wis.; Cook Bros. Oil Co., Menominie, Wis.; Dalton Oil Co., Dalton, Wis.; Depies-Heus Oil Co., Newholstein, Wis.; Erzinger Oil Co., Kankakee, Ill.

Eau Claire Co-Operative Oil, Eau Claire, Wis.; Hanson Oil Co., Burlington, Wis.; Heines Gas & Oil Co., Merrill, Wis.; Indianapolis Filling Station, Chicago, Ill.; Inter-County Oil Co., Ableman, Wis.; Kankakee Oil Co., Kankakee, Ill.; Knapp Garage, Knapp, Wis.; Lake Shore Oil Co., Cudahy, Wis.; Loyal Oil Co., Loyal, Wis.; Mayer Oil Co., Monroe, Wis.; Mayville Independent Oil & Fuel, Mayville, Wis.; Menomonie Oil Co., Menomonie, Wis.; Olson Oil Co., Milltown, Wis.

Osborne Oil Co., Rockford, Ill.; Peterson Oil Co., Sturgeon Bay, Wis.; Pahlow Oil Co., Shawano, Wis.; Quality Oil, Freeport, Ill.; Rainbo Oil Co., Dubuque, Iowa; Reckin Oil Co., Mauston, Wis.; Schaetzel Oil Co., Germantown, Wis.; Valley View Oil, Waukesha, Wis.; Wheeler Oil Co., Wheeler, Wis.; Wingrove Oil Co., Sheboygan, Wis.; Wolf River Oil Co., Fremont, Wis.

First Sentence Imposed In 'Hot Oil' Charges

NEW ORLEANS, Nov. 25.—Seymour Weiss, New Orleans hotel man charged in federal district court for conspiracy to violate the Connally "hot oil" law, pleaded guilty and has been placed on 5 year probation after completion of a jail term of 78 months on conviction for mail fraud and income tax evasion.

Two counts in the federal indictment charged Weiss, former Louisiana Gov. Richard Leche and F. W. Burford, Dallas oilman, with Connally act violations and conspiracy to obstruct a federal function. Burford has never been brought to trial on these federal charges.

Kansas Governor Re-Elected By Margin of 427 Votes

TOPEKA, Nov. 26.—Republican Governor Payne Ratner of Kansas has apparently won his fight for re-election by a scant 427 majority over his Democratic opponent, according to "official" figures released here today.

The incumbent has fought Federal control of oil and advocates wider markets for Kansas crude. His appointee on the Interstate Compact Commission—Kansas Corporation Commissioner A. F. Schoeppel—is vice-chairamn of the Interstate Oil Compact and member of the committee drafting the revised compact.

Car Factory Sales Rise For October

N. P. N. News Bureau

WASHINGTON, Nov. 26.—Automotive factory sales for October, 1940, were higher than sales in October, 1939, or for September of this year, according to Director William L. Austin, Bureau of the Census, Department of Commerce.

Factory sales of automobiles manufactured in the U. S., including complete units or vehicles reported as assembled in foreign countries from parts made in the U. S., for October, 1940, consisted of 493,223 vehicles, of which 421,214 were passenger cars and 72,009 commercial cars, trucks, or road tractors, as compared with 269,108 vehicles in September, 1940, 313,392 vehicles in October, 1939, and 209,512 vehicles in October, 1938. These statistics comprise data for the entire industry.

Statistics for 1940 are based on data received from 72 manufacturers in the United States, 22 making passenger cars and 61 making commercial cars, trucks, or road tractors (11 of the 22 passenger car manufacturers also making commercial cars, trucks or road tractors). It should be noted that those making both passenger cars and commercial cars, trucks, or road tractors have been included in the number shown as making passenger cars and in the number shown as making commercial cars, trucks, or road tractors, respectively. The figures for passenger cars include those for taxicabs. The figures for commercial cars, trucks, and road tractors include those for ambulances, funeral cars, fire apparatus, street sweepers, station wagons, and busses.

U. S. Exports of Gasoline Drop 48% in 1940 Period

N. P. N. News Bureau

WASHINGTON, Nov. 26.—Exports of gasoline from the U. S. for the first ten months of 1940 were 48.65% below the corresponding period of 1939, according to preliminary figures issued by the Department of Commerce.

Exports for the 10 months of this year totaled 16,174,000 bbls., compared with 31,499,000 bbls. in the same period of 1939. Value of gasoline exports, however, dropped 34.7%, indicating that American exporters received higher prices during the 1940 period.

Exports of crude were down 26.26% from 62,085,000 bbls. to 45,784,000 bbls. Gas and fuel oil exports declined from 39,607,000 bbls. for the first 10 months of this year to 25,833,000 bbls., a drop of 34.7%.

Exports of lubricating oils very nearly approximated those of 1939. Exports in the first 10 months of this year totaled 9,127,000 bbls. compared with 9,280,000 bbls. for the same period the year previous, a decline of only 1.65%. Value of lube exports in the 1940 period, however, was 22.47% greater than those shipped in 1939.

Imports Up

On the other hand, imports of crude jumped 5,710,000 bbls. from 28,608,000 bbls. in the first ten months of last year to 34,318,000 bbls. through October, 1940. Total imports of gas and fuel oils for the first ten months of 1939 were valued at $9 394,000 while $22,425,000 was the value of imports during the first ten months of this year.

Following are detailed figures in thousands of barrels, and in thousand dollar value:

	October		Ten Months	
EXPORTS	**1939**	**1940**	**1939**	**1940**
Gasoline				
(1000 bbls.)	2,729	1,556	31,499	16,174
($1000)	8,493	5,710	80,558	52,608
Lubricating Oil				
(1000 lbs.)	972	606	9,280	9,127
($1000)	8,588	5,385	68,084	83,380
Crude Petroleum				
(1000 bbls.)	6,947	5,269	62,085	45,784
($1000)	9,011	6,823	80,054	60,175
Gas and Fuel Oil				
(1000 bbls.)	3,784	2,003	39,607	25,833
($1000)	4,630	2,452	46,911	30,405
IMPORTS				
Crude Petroleum				
(1000 bbls.)	3,093	3,910	28,608	34,318
($1000)	2,069	2,878	19,414	25,620
Gas and Fuel Oil				
($1000)	750	2,834	9,394	22,425

City Asks Reversal of Court Decision Invalidating New York Price Sign Law

NEW YORK, Nov. 25.—New York City officials, seeking reversal of the decision handed down Aug. 10 by Appellate Court of Special Sessions, which invalidated section of the city's gasoline price posting law regulating size of price signs, will argue their case Dec. 3 before Chief Judge Lehman of the Court of Appeals, Stanley Buxbaum, assistant corporation counsel, told NATIONAL PETROLEUM NEWS late last week.

City officials have indicated they are anxious to have decision reversed. They said they believe that large price signs provide opportunity for the display of misleading information and give impetus to the growth and continuation of price wars. Mr. Buxbaum earlier this year said he would attempt to show that the law was not an "unreasonable" method of abolishing the "evil", as ruled by the Appellate Court.

In many sections of metropolitan New York, price signs as large as 6 by 4 feet are being displayed at present. Some of the signs advertise "7 gals. of regular for 98c." Others, particularly in Brooklyn, read: "8 gals. of regular for 98c," or "9 gals. of regular for $1.08," it is said.

Since the price war in New York City broke out early in July, 108 court and 112 departmental summonses have been issued to dealers for alleged display of "misleading" price signs, Department of Markets reports.

THE EDITOR'S PAGE

Readers Comments and Opinions will be much Appreciated by—WARREN C. PLATT, Editor and Publisher, Penton Building, Cleveland, O.

Railway Age Editor Calls on Roads For New Rate Making Theory to Return Oil and Other Lost Tonnage

The oil industry, both majors and independent, have always been in a battle with the railroads to get lower freight rates for the transportation of petroleum and its products.

Back 40 to 60 and more years ago the only way that lower oil rates could be had was by those oil companies that were large enough using their tonnage to force rebates. In this, the then Standard Oil Trust came out on top.

But even in that rebate period, the roads never got their rates low enough to hold the business. In fact, when the threat of the loss of tonnage was removed, the rates popped back up to an impossible level. Pipe lines were built even with the aid of the railroads which loaned their rights-of-way for the use of many of the lines. The railroads seemed content to lose that tonnage.

Since the creation of the present Interstate Commerce Commission and the elimination of rebates, the country has been presented with the strange spectacle of the railroads fighting hard to maintain rates which protected these pipe lines and which, at the same time, limited the rails' own cash customers until they are now shrunken within small marketing areas, such as Group 3 refiners confining most of their business to within a few hundred miles of their refineries.

Since the creation of the "I.C.C." the spectacle has been presented of these small cash customers filing literally thousands of complaints against excessive oil rates in order that they might open up markets for themselves and provide tonnage for the rails. In fact, the oil jobbers who exist north of the Mid-Continent oil field, owe their very existence to many of these thousands of complaints made 20 years ago by the then independent refiners. And each reduction in rail rates that was obtained came only after vigorous opposition from the roads to the wishes of their customers.

The spectacle has also been presented of good cash customers, who had grown large enough to accumulate some extra money, appealing to the roads for reductions to avoid the necessity of their putting in first crude oil, and of late, gasoline pipe lines. But each time the roads would refuse the rates necessary to hold the business and the refiners would build the pipe lines which would divert thousands of train loads of business annually away from the roads.

And still another unbelievable spectacle lies in the fact that some 40 years ago Independent oil interests got Congress to pass a law declaring all pipe lines common carriers, and then those interests did nothing at all under that law until many years later when in 1912 Independent refiners and producers, especially of the Mid-Continent, brought about an investigation by the Department of Justice and then by the Interstate Commerce Commission. The up-shot of it all was that the Commission announced that it had the authority to enforce common carrier regulations and ordered the lines to file rates. The pipe lines took the case to the U. S. Supreme Court and lost. The lines then filed rates of the same amount as the rail rates despite the great disparity in costs. Then for 20 years no one did a thing, until at last one independent refiner and one Standard Oil company, caught in the vise of lower priced Illinois crude, filed complaints with the "I.C.C." and today the Commission is completing a valuation of the lines on which to base reasonable rates.

But in all these years, not one single peep to the Commission has ever been made by either Independent refiners or marketers, some of whom have in that time gone to Congress and demanded "divorcement" when the short route to lower pipe line rates was right before them. You explain it.

The consistent and persistent attitude of the rails against making rates that in the opinion of many experts they easily could afford, to hold this oil business, is unbelievable. Urging them to maintain this position were at least some of those oil companies which owned pipe lines. This presents the question which to-date has been unanswered, and that is why should one business interest take the advice of a competing business interest and throw away its cash customers?

But whatever the answer to that question is, there has been some new thinking and preaching at work right in the inner circles of the railroads. Sam O. Dunn, the valiant and far-seeing editor of many years of the RAILWAY AGE, has for years been calling the attention of railroad executives to the nonsense of losing tonnage continually to the ever-growing water routes, trucks and even pipe lines. He has urged that there was something wrong with the rate policy and that if it was not changed the rails would just dry up and blow away.

We reprint in full a recent editorial from RAILWAY AGE which calls for a complete revision of the thinking that controls the rail rate structure. If Editor Dunn's advice should be taken by the rails at some early date, something akin to a revolution would come over the oil industry because of the probable immediate growth in marketing areas from independent refining points.

Editor Dunn in the issue of RAILWAY AGE of Nov. 16, 1940 says,—

Some More Pioneering Needed

"The enormously over-expanded transportation plant that the nation now has to support had its origin, at least in part, in the desire of shippers to reduce their transportation costs, coupled with technical improvements in the motor vehicle and the vast program of highway expansion, which gave shippers the opportunity they had been looking for. The costs of these bargain-seeking shippers could have been reduced by the revision of railroad rates (where railroad costs were low enough to permit rates lower than the expenses of providing alternative methods of transportation). Such railroad rate revisions were not made, however. The duplicating plant was built and the question now is how best to minimize its burden.

"Present still-dominant theories of railroad pricing date back to the beginning of the railroads. The early railroads at first handled only higher grade freight for comparatively short distances. As their revenues increased from this traffic, they saw the opportunity to handle lower grade freight at lower rates and extend their lines and move freight for greater distances at lower ton-mile costs. This added traffic was developed upon a 'marginal' or 'added cost' basis. Out of this evolved the 'what the traffic will bear' theory of rate-making.

"What the shipper could afford to pay under conditions existing *at the time* (the italicized words constitute an important qualification) was developed into a rate structure. This structure worked excellently while the railroads were almost the sole agency of transportation, but the advent of the truck and improved methods of water transportation (with their practice of handling only the more remunerative freight) has raised the question whether the railroads can successfully continue their historic pricing policy. The loss of a large volume of traffic has kept unit costs higher than they might otherwise have been and has resulted in a general level of freight rates out of line with the index of commodity prices. When railroad rates on any commodity are out of line with the prices of that commodity, the shipper is given a powerful incentive to develop alternate methods of transportation.

"Prior to the regulation of motor trans-

port, these carriers made their rates not higher, but generally lower than rail rates. Water transport, only recently made subject to comprehensive regulation, developed in much the same manner. With the advent of Interstate Commerce Commission regulation of truck rates in 1936, the predominant opinion seemed to be that it would be mutually advantageous to stabilize truck rates at somewhere near the rail level. Such reasoning failed to give adequate consideration, however, to the fact that the flexibility, more complete and oftentimes more expeditious service by truck and the opportunity of the trucker in the rail rate structure to 'pick and choose' his traffic *gave the motor carriers the advantage at equal rates.*

"Equal rates for dissimilar service is not genuine parity of rates. And it is noteworthy that water transport rates are usually made materially lower than railroad rates as an offset to the usually less complete and slower service by water. It is not necessary to change the fundamental principle of 'charging what the traffic will bear.' It is only necessary to look at the rates which potential traffic will bear today, rather than what it could bear at some time in the past. *Potential traffic in times past consisted of commodities which could not move at the normal rate level. Potential traffic now consists largely of traffic which is moving by rival methods of transportation, but which the railroads can handle at lower rates and at lower costs.*

"The Transportation Act of 1940 emphasizes the importance of comparative costs in settling differences between rival agencies of transportation and commands more explicitly than ever before the recognition in rate-making of the 'inherent advantages' of each form of transportation.

"The employment of comparative costs by the carriers and regulatory authority in fixing minimum rates, and the recognition of such costs and the costs of private transportation in fixing the general level, appears to be the practical way to control, in the public interest, the development of this *unavoidably competitive* industry. The sound application of costs in competitive rate-making would direct traffic into its natural economic channels and eliminate the maintenance and continued expansion of costly surplus facilities.

"That, anyhow, is the conclusion to which all the available facts seem to point. If there is any other possible solution which will meet the exigencies of the situation, we should welcome the opportunity to make it known."

Oil's Tax Bill Hits Billion Nov. 15; Industry Observes 'Breathless Moment'

From all outside appearances, Friday, Nov. 15, was pretty much of an ordinary day. The Earth made its customary rotation around the sun.

However, on that day, the tax collector, for the second time in any one year, pocketed a check for $1,000,000,000 with the compliments of the motoring public and the petroleum industry. About 11 A.M., Nov. 15, gasoline tax receipts reached the Billion-Dollar Mark.

This "Billion Dollar Breathless Moment" came a month earlier this year than last. Higher federal gasoline tax, and increased use and sales of automobiles were the factors which moved the date ahead. Next year, the tax collector looks foreward toward payment of this $1,000,000,000 installment at a still earlier date.

Gasoline taxes paid by motorists in the U. S., during 1940, *reached the* $1,000,000,000 *mark on Nov.* 15, *one month earlier than last year, and to celebrate the event, the "Billion Dollar Breathless Moment" is an annual observance. Photo shows William Harrison receiving over-sized check from, left to right, Muriel Brown, Fay Lancaster, Marguerite Dappert and Jane Fertig. "Big Moment" came earlier this year because of higher federal gasoline tax, plus increased ownership and use of motor vehicle*

Arkansans Observe "Billion Dollar" Mark

LITTLE ROCK, Ark., Nov. 23.—Arkansas motorists, truck and bus drivers paused at 11:00 A.M. Nov. 15 in a "billion dollar breathless moment," commemorating the point at which the nation's annual gasoline tax bill passed the billion-dollar mark. This "billion dollar breathless moment" was advocated by the Oil Dealers Ass'n. of Arkansas so motorists could ponder this 21 year old tax that reached its billion dollar maturity one month earlier this year.

'Gas' Collections Up

WASHINGTON, Nov. 20. — Federal gasoline tax collections totaled $31,446,737 in October as compared with $16,458,880 during same month in 1939, Bureau of Internal Revenue reports.

October lubricating oil collections amounted to $2,870,980 in contrast to $2,291,291 last year. Taxes on the transportation of oil by pipeline came to $964,517 this year, as against $731,207 during October, 1939.

Oklahoma Is Searching for New Revenue Source

OKLAHOMA CITY, Nov. 25. —Oklahoma's Governor Leon C. Phillips, like many other state executives, is out looking for ways and means of increasing the state's revenue in an effort to balance the budget.

Numerous suggestions have been made by the state's legislators to Governor Phillips. And one of the first suggestions made was a higher gross production tax on petroleum. And that, together with suggestions for increased income tax, was the first to be chalked off the list of possible money raisers by the governor. Those two sources were tapped enough already, he said.

But included on the list of possibilities is a 1c a gal. increase in state gasoline tax, to 5c and a hike to 3% in the state's sales tax.

In discussing disposition of the tax monies, the governor said "I am of the opinion that for the general welfare of the state most of the taxes ought to be put in the general fund, with with these exceptions—the sales tax for social security, gasoline and automobile license tax for highway department."

Kansas Jobbers Ask Compensation of 5% For Tax Collecting

WICHITA, Nov. 25.—Kansas Oil Men's Assn. will ask compensation from the state for acting as collection agency for the state's gasoline tax at its Dec. 9 annual meeting here.

It has been pointed out that oil companies have suffered tremendous losses in the role of tax collector. "As long as the gasoline tax is easy and painless to collect, politicians will continue piling new levies on use of gasoline," one Kansas jobber complained.

Another jobber has pointed to the 8% compensation granted tobacco jobbers for collection of the state's tax on their product. The Kansas oil jobbers will ask only for 5% compensation, it is said. Legislation authorizing such compensation is scheduled for discussion at the one-day convention.

BALTIMORE, Nov. 22.—Gasoline consumption in Maryland in September totaled 27,643,596 gallons, representing a decrease of 6% from August when the total was 30,091,818 gallons.

The answer—Dubbscracking

The domestic oil burner and the Diesel engine are the newest boarders at the refiner's table and they are getting to be bigger eaters Their appetite is tricky—only a narrow cut from the barrel of crude can satisfy them

Gasoline consumption has been increasing for the past five years but distillate consumption has increased twice as fast, says Oil and Gas Journal Both products are important The Journal goes on to say:

"Last winter many refiners stepped up their operations to get the 6.5 gallon per barrel yield of these oils At the same time they made 18.5 gallons of gasoline, a large part of which went to storage tanks already too full"

Oil and Gas Journal points out the remedy

"Modern refinery processing has the flexibility to cope with this situation It's a matter of varying cracking operations to balance seasonal demands"

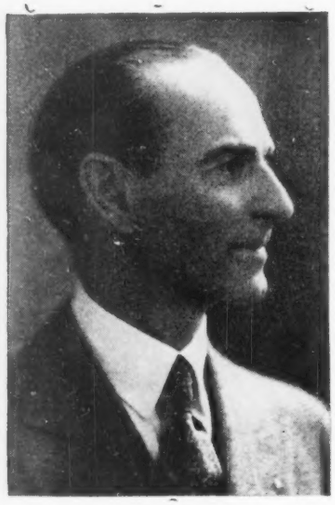
Right—Here's the answer in one word:

Dubbscracking

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

Death Takes Nourse, Kansas City Jobber



'Jack' Nourse

John C. (Jack) Nourse, 55, Kansas City, president and founder of the pioneer petroleum marketing and manufacturing firm of Nourse Oil Co., died Nov. 24 after an illness of 2 years. He leaves his wife, two married sons and a 5-day old grandson.

Born in Grand Rapids, Mich. in 1885, Mr. Nourse attended Howe Military Academy at Howe, Ind. In 1907, he organized Nourse Oil Co. and has operated it until has death.

This oil man commenced business as a small marketer, selling to the country trade. Many of his sales were cleaning compounds and petroleum products other than oil and grease. He was among first to construct a modern bulk plant in Kansas City.

Quick to appreciate more efficient methods of handling his business, Mr. Nourse was among the first to use an airplane for business purposes, doing much of the actual flying himself.

Several years ago, Mr. Nourse wrote a series of articles for NATIONAL PETROLEUM NEWS, entitled "How to Do It Better," in which independent marketers were given selling advice. On Nov. 18, 1931, he wrote an article for NPN on "A Future for the Independent Marketer?—Listen."

During his recent illness, Mr. Nourse was busy conducting his business and carrying on his charities. Through the Salvation Army, he distributed radios to people confined in home or hospital, placed several hundred fans in the homes of Kansas City's sick and needy and within the past few months contributed 200 pairs of shoes to poor school children.

He founded the "war chest" of the Kansas City Oil Men's Club and directed the humanitarian activities of the club through this chest fund.

Mr. Nourse's company will continue to operate under present management, with no immediate change in the 33-year old company's marketing policies, it is reported.

* * *

Malcolm G. Vilas

Malcolm G. Vilas, 83, former secretary-treasurer of Standard Oil Co. of Ohio, died in Cleveland, Nov. 12.

Mr. Vilas started work as a bookkeeper and rose to occupy an officer's and director's chair. His father, George H. Vilas, was associated with John D. Rockefeller in the early days of the oil industry. He retired in 1928.

Mr. Vilas leaves 2 sons, Malcolm B. and Charles W., a daughter, Mrs. Arthur H. Otis and 17 grandchildren and 11 great-grandchildren.

* * *

Mrs. Elizabeth M. Shaw

Mrs. Elizabeth M. Shaw, 74, died Nov. 24 at her West Palm Beach, Fla., home. Mrs. Shaw leaves 2 sons: Raymond Shaw, Chicago, president of Chek-Chart Corp., and Clayton Shaw, Chicago, city manager of sales, Phillips Petroleum Co.; and a daughter, Miss Gertrude Shaw, West Palm Beach.

Bulk Plants In U.S. Increase Since '35

N. P. N. News Bureau

WASHINGTON, Nov. 23. — Mounting value of sales by petroleum bulk plants during the past five years are shown in the first results of the 1939 wholesale census, covering Idaho, Montana, New Hampshire and New Mexico.

New Mexico sales increased 79.1%, the total for 1939 being $15,729,000 as compared with $8,781,000 in 1935. Bulk plants in the state increased from 194 to 256 during the 5-year period.

New Hampshire sales amounted to $17,636,000, an increase of 44.2% over the $12,234,000 of 1935. Bulk plants in 1939 numbered 105 as compared with 94 in the 5 years previous.

Idaho sales totaled $22,105,000 in 1939 as compared with $16,441,000 in 1935, an increase of 34.5%. Bulk plants increased from 282 to 333 during the period.

Montana sales for 1939 totaled $18,860,000, or 9.3% above the $17,252,000 for 1935. Bulk stations during the period increased from 442 to 481.

Census bureau results from its 1939 retail census show Idaho filling station sales as nearly 3 times as large as they were 10 years ago. Sales were $16,443,000 in 1939; $10,058,000 in 1935, and $6,268,000 in 1929. Number of filling stations in the state increased from 441 in 1925 to 956 in 1935 and to 1,361 in 1939.

Employers Must Pay Time and One-Half Despite Union Contract, says Fleming

WASHINGTON, Nov. 23.—Under Fair Labor Standard Act, obligation to pay time and one-half after 40 hours, is not voided by existence of a union contract calling for a workweek of more than 40 hours without the payment of overtime—except in certain instances—Col. Philip B. Fleming, Wage and Hour Division Administrator, U. S. Department of Labor, warns.

"Since the requirement that time and one-half be paid after 40 hours became effective Oct. 24, we have received many inquiries from union members, business agents, and employers about the status of union contracts calling for a longer workweek without the payment of overtime," Colonel Fleming explained.

"A clause providing for a workweek of more than 40 hours without the payment of overtime does not relieve the employer of the necessity of paying time and one-half in accordance with the provisions of the Act.

"Such a clause will have no legal effect, although the rest of the contract may stand.

"The Wage and Hour Division will not give weight to such a clause in making an inspection to determine whether the law is being complied with by an employer. The standards fixed in the Act may not be lowered by any kind of agreement."

Kansas Proration Hearing Scheduled for Nov. 29

TOPEKA, Nov. 26.—Kansas' statewide proration hearing will be held at Wichita Nov. 29. Kansas Corporation Commission is expected to issue an order calling for allowed production of 188,400 bbls. daily for December, same as the Bureau of Mines' demand forecast. An additional 4000 to 5000 bbls. may be ordered for new wells.

Oil Burner Industry Anticipating Exhibit

NEW YORK, Nov. 25.—The National Oil Burner Progress Exhibition and Convention, opening at Commercial Museum, Philadelphia, March 17, 1941, promises to be the largest ever held by the oil burner industry, C. F. Curtin, secretary of the Oil Burner Institute, says.

Over 80% of the exhibition space had been taken as of Nov. 23, with 130 booths sold to oil burner manufacturers, accessory manufacturers and oil companies, Mr. Curtin said.

"Sales of exhibition space have surpassed expectations at this date and there is every evidence that the oil burner industry is keen to demonstrate its pride of accomplishment and its pride in an industry which typifies American inventive and business pioneering and which has contributed so much to social advancement," Mr. Curtin says.

Kerosine, No. 2 Fuel Prices Advance Nov. 29 in East

NEW YORK, Nov. 26.—Socony-Vacuum Oil Co., Inc., has announced that, effective Nov. 29, its prices for kerosine and Mobilheat (Nos. 2 and 3 fuel oils), will be advanced 0.4c per gal., all methods of delivery, throughout New England and upper New York state, with exception of the western area of New York state.

Same date, Socony's prices for kerosine and Mobilheat "at New York harbor and surrounding territory" will be advanced 0.2c per gal., a company official said.

Wholesalers' Committee Set Up for Defense

N. P. N. News Bureau

WASHINGTON, Nov. 23. — National defense wholesale conference staged by Miss Harriet Elliott, Defense Commission Consumer member, has set up a nine-man industry advisory committee to carry out a resolution condemning unwarranted price increases.

A like resolution was passed at Miss Elliott's retail conference two months back. Retailers now have in operation a system of reporting to Miss Elliott those manufacturers who fail to explain satisfactorily price increases. Evidence of seeming collusive action is turned over to the Justice Department. Retailers' price reporting system has been declared legal under the antitrust laws by Assistant Attorney General Arnold.

WITH THE ASSOCIATIONS

Wisconsin Petroleum Group Will Fight Reclaimed Oil Marketing, Says Brecke

N. P. N. News Bureau

CLEVELAND, Nov. 25.—The Wisconsin Petroleum Assn. has started a fight against the marketing of reclaimed oil, according to Roy L. Brecke, executive secretary.

"Countless motors have been ruined when their innocent owners have, in good faith, purchased so-called 'reclaimed oil' under misrepresentation," Mr. Brecke said, adding that this imposition on the public has led the association to inaugurate its campaign.

"Reclaimed oil, by which is meant an oil product from which the dirt, sludge and slime is said to be removed, is being marketed at lower prices than new, fresh lubricating oil," Mr. Brecke said. "In countless instances such oil works havoc with automobile motors because it cannot give the lubricating qualities of fresh quality oil, as motorists have found to their grief. The lower price of this reclaimed oil is the lure to which many unsuspecting motorists succumb," he added.

"I have before me a bulletin from the federal trade commission, Washington, D. C.," said Mr. Brecke, "in which the Westville Refinery, Inc., Westville, Ind. is charged with misrepresentation, in a federal trade commission complaint. (N. P. N. Nov. 20, page 24).

W.P.R.A. Meets at Hot Springs On April 16-17-18

TULSA, Nov. 25. — Western Petroleum Refiners Assn. announces that its convention committee has chosen April 16, 17 and 18 as dates for its 1941 annual meeting. Convention city will be Hot Springs, Ark., it was revealed. Headquarters for the meeting will be at the Arlington Hotel.

"Plans for an interesting and instructive program are going forward and preliminary announcements will be made at an early date," according to announcement by John C. Day, association secretary.

Merchandising, Legislative Problems Will Highlight Wisconsin Oil Meeting

N. P. N. News Bureau

CHICAGO, Nov. 23.—When the annual convention and equipment show of the Wisconsin Petroleum Assn. is held at Milwaukee, Feb. 11-13, Roy L. Brecke, executive secretary, says that two themes will be stressed: program of the association's legislative committee and "how to sell more merchandise."

The association's series of regional meetings, suggested by President Norman Ott, Milwaukee, are reported to have aided every jobber member. From these meetings, the Wisconsin association unanimously adopted resolutions regarding legislation which will be presented to the 1941 state legislature for consideration.

Briefly these resolutions are as follows:

"1. That the Wisconsin Petroleum Association go on record definitely opposing any increase in tank truck capacity for gasoline over the present limit of 2000 gals.

"2. That the Association go on record definitely asking the State of Wisconsin for a 2% fee for the collection of the gasoline tax, due to the fact that jobbers are put to more than this amount of expense in collecting this tax for the state.

"3. That the oil jobbers of the state be relieved of the necessity of paying for the expense of a 'gas' tax bond of one and one half times the average amount of tax collected monthly for which they must pay at the rate of $12 per thousand which in reality is paying a premium for the privilege of collecting the 'gas' tax for the state.

"4. That the Association go on definite record against diversion of the 'gas' tax with the definite opinion that should diversion be stopped, the 'gas' tax could be reduced from 4c to 3c and that there would be no loss in highway construction or maintenance."

Believing that this is the time to do more "selling" the association is arranging for a number of talks on merchandising as applied to the oil industry.

Strippers To Seek Secondary Recovery

N. P. N. News Bureau

TULSA, Nov. 25.—The Oklahoma Stripper Well Assn. at its annual meeting here Dec. 13 will discuss proper legislation enabling the unitization of oil properties to facilitate secondary recovery operations. And since secondary recovery methods are of utmost interest to the stripper group, this subject will highlight the afternoon session.

The noon-day luncheon will take the form of an open forum meeting, with Congressman Wesley E. Disney of Tulsa as principal speaker.

R. L. Gordon of Bartlesville, vice president and general counsel for Indian Territory Illuminating Oil Co., will present his views on the "Necessity of Unitizing Royalty Interests for the Purpose of Repressuring." This paper is expected to furnish the background for a thorough discussion of proposed legislation calling for necessary unitization. This legislation was advocated by the National Stripper Well Assn. at its annual session in Dallas recently.

"The Development of Secondary Recovery Methods in Northeastern Oklahoma" will be reported by Judge J. Wood Glass of Nowata. Roy M. Johnson, Ardmore oil producer, will discuss "Items of Interest to Stripper Well Owners."

President W. A. Goforth, independent producer of Tulsa, will preside at the business sessions. Convention arrangements were handled by D. G. Powell of Tulsa, executive manager of association, and his committees.

Texas Oil Group Will Meet Dec. 2

N. P. N. News Bureau

TULSA, Nov. 25.—Approximately 700 members of the West-Central Texas Oil & Gas Assn. are expected at the group's annual meeting at Abilene, Tex., Dec. 2 when the main topic of discussion will probably be the association's demand for a new oil and gas commission in Texas. (See story page 16).

It was the West-Central Texas association that led off two weeks ago in the movement for an elective commission whose sole responsibility would be the administration of Texas' oil and gas conservation laws. The group claims the Texas Railroad Commission, present administrator of petroleum conservation in Texas, is so burdened down with a "multiplicity of duties" that true conservation cannot be accomplished.

Special invitations have been sent Texas legislators to attend the meeting and many are reported to have accepted.

An "open forum" discussion of oil industry problems will be held in the afternoon.

A banquet and entertainment program at Fair Park Supper Club in the evening will feature the entertainment side of the program, says President J. A. Clarke.

Arkansas Oil Dealers Plan Dec. 5 Meeting

LITTLE ROCK, Nov. 23. — The membership of the Oil Dealers' Assn. of Arkansas attending the group's sixth annual convention here Dec. 5 will hear an address by Gov.-elect Homer M. Adkins.

Other speakers on the one-day program will include Judge Cecil Morgan, vice-president of Louark Producing Co.; W. E. Thompson, assistant district manager of Sinclair Refining Co.; Lieut. Gov. Robert Bailey and Charles Evans, director of public relations for Arkansas Power & Gas Co.

Convention will be presided over by M. R. Springer, association chairman. Election of officers for the coming year will be held in the afternoon, followed by a golf tournament and a dance.

Kansas Proration Laws Upheld, Including the 'Log-Log' Method

WICHITA, Kans., Nov. 23.—Kansas' proration laws, providing for the "log-log curve method of equably distributing market demand" for the state's crude among various pools, were upheld by three-judge federal court sitting at Kansas City, Mo.

The decision was hailed by the Kansas Corporation Commission, administrator of the proration statutes, as a "well seasoned opinion", while others said it provided "complete justification" for present proration orders.

The case was brought by Bay Petroleum Co. and the producing firm of Morgan, Cobb and Flynn. Prior to May, 1939, the 2 companies were operating their Otis field wells under special allowables; later rescinded when the proration law was amended and provided for the "log-log" curve basis of allowable distribution. The 2 companies obtained temporary injunctions that permitted them to produce their properties at a reported 2000 bbls. daily, based on the old special allowable. Last week's decision vacates the temporary injunction and places production from their wells under jurisdiction of the Kansas Corporation Commission. Under the "log-log" curve basis, production from the wells will be pinched in to about 12,000 bbls. monthly, according to commission attaches.

Doubts Constitutionality

In the majority opinion, it was said that "if excess production is allowed in one prorated pool, even without physical waste there, total production will exceed total market demands and that condition contributes to physical and economic waste as well as industrial instability."

Judge W. A. Huxman, in his dissenting opinion, wrote that "I have grave doubts as to the constitutionality of the statute which authorizes the state to regulate the correlative rights as between pools without reference to the element of waste and more doubt as to the reasonableness of the challenge to regulation."

If waste is not considered in dividing and allocating market demand among producers "then we have destroyed the last remaining vestige of free enterprise and have completely regimented the oil industry," he concluded in his dissent.

At about the same time the court was handing down its decision upholding Kansas' proration laws, Consumers Cooperative Assn., Inc., meeting in annual session at North Kansas City, scored the proration law as "not parallel either with the public interest or with the principles of true conservation, and that it does not do equal justice to all petroleum interests in the state."

Kansas Study To Be Made

The co-op resolution authorized the C.C.A. management to make a thorough study of Kansas proration laws and suggested their recommendations be embodied in an amendment for introduction in the next session of the legislature, providing conditions at that time warrant such action.

At the time the resolution was passed, C.C.A. members had the group's 12th annual report at hand which scored the 1939 revisions of the proration laws as "vicious and discriminatory because they give too much power over a valuable natural resource into the hands of major oil companies with their networks of pipelines, and because they give too little power to the state corporation commission in administering the act."

The report described difficulties experienced in obtaining sufficient crude for operation of the co-op's Phillipsburg, Kans. refinery and how eventually a supply was obtained.

Tank Car Fuel Oil Prices Advanced at Eastern Ports

N. P. N. News Bureau

NEW YORK, Nov. 25.—Advance of 0.25c per gal., effective Nov. 22, in its tank car prices for kerosine and Nos. 2 and 3 fuel oils at Baltimore, Norfolk, Wilmington, and Charleston, has been announced by Standard Oil Co. of New Jersey. Effective same date, the company's tank car and barge prices for kerosine at New York harbor were increased 0.2c per gal., a company official said.

Advance Kerosine Prices 0.2c in New Jersey

NEW YORK, Nov. 25.—Standard Oil Co. of New Jersey, effective Nov. 22, increased its dealer tankwagon price for kerosine in the state of New Jersey 0.2c to 7.9c per gal., according to a company announcement. Company also announced that effective same date, its tank wagon price for "Essoheat No. 2" was increased 0.25c per gal. generally throughout the state of North Carolina.

California's December Quota Set at 571,000 Barrels

LOS ANGELES, Nov. 23.—California's crude oil quota for December has been set at 571,000 bbls. per day by the Conservation Committee of California Oil Producers. This figure is the same as quotas set for October and November. Top well allowable for individual wells was cut to 149 bbls. daily from November's 151 bbls.

No Interim Oil Report Expected From Cole

N. P. N. News Bureau

WASHINGTON, Nov. 23.—Congressman Cole, chairman of the House Oil Investigating Committee says he does not expect to file an interim report at this session of Congress in view of the "final report" to be filed in December.

Mr. Cole was unable to state whether this "final report," which is required at the end of each session of Congress, would conclude his committee's oil investigations.

Oil's Story Told In National 'Ads'

N. P. N. News Bureau

NEW YORK — Institutional advertisements, the themes of which center on service, technological progress, conservation, and all other advancements in the petroleum industry which have brought about lower prices, better products, and greater convenience for American motorists, are now telling oil's story to the public through the pages of national magazines.

The "ad" copy was originally prepared for the public relations department of the American Petroleum Institute, which discounted its general public relations campaign at the mid-year meeting in Fort Worth, last May, and consequently made no use of the copy.

Light Fuel Oil Stocks Drop 597,000 Bbls.

N. P. N. News Bureau

NEW YORK, Nov. 26.—American Petroleum Institute today reported decline of 597,000 bbls. to 47,511,000 bbls. in its estimate of total U. S. stocks of gas oil and distillate fuels in week ended Nov. 23.

Nearly the entire drop in stocks took place on the eastern seaboard, where inventory of light fuels was cut 561,000 bbls.

Residual fuel stocks were down 280,000 bbls., totalling 106,871,000 bbls. on Nov. 23, the Institute reports.

Stocks of motor fuel for the country as a whole increased 37,000 bbls. to 80,063,000 bbls.

Toluol Contract Awarded

WASHINGTON, Nov. 22. — War Department has announced award of a $7,800,000 contract for toluol to Baytown Ordnance Works, Baytown, Tex., now being built at a cost of $10,760,000 by Humble Oil and Refining Co., under a cost-plus-fixed-fee contract.

Plan to Re-Write Oil Compact Dec. 6 For Submission to Congress, States

OKLAHOMA CITY, Nov. 25. —Invitations went out last week to governors and regulatory bodies of all producing states in the country to attend the Dec. 6 quarterly meeting of the Interstate Oil Compact Commission at Tulsa.

"We are making a special effort to secure the attendance of governors of non-member states because, at this meeting, the terms of the new compact must be agreed upon and rewritten for submission to the states and to Congress," Governor Leon C. Phillips of Oklahoma, chairman of the compact announced.

And since the terms of the present compact expire Sept. 1, 1941, the chairman has appointed Judge J. C. Hunter of Texas, Hiram Dow of New Mexico and Andrew F. Schoeppel of Kansas to prepare and present a tentative draft of the new compact at the meeting.

Hear Committee Reports

The reports of three recently-appointed committees will also be heard. The legal committee, with Earl Foster of the Oklahoma Corporation Commission's legal staff as chairman, will submit to the commission "model" oil and gas conservation laws to be recommended to all oil producing states.

The committee on regulatory practices, headed by T. A. Morgan of the Kansas Corporation Commission's conservation division, will present "model" rules and regulations for the enforcement of state conservation laws.

The compact's engineering committee, which held a preliminary meeting during the recent American Petroleum Institute meeting at Chicago, will report on uniform proration practices in conservation. This committee, headed by Dr. E. DeGolyer of Dallas, is a permanent committee and will submit supplemental findings from time to time, it was said.

Annual election of officers will also be held at the Tulsa meeting.

Heating Oil Market Factors Of 1940-'41 Season Clearer

(*Continued from page* 13)
stocks of light and heavy fuel on Nov. 16, 1940, with inventory Nov. 18, 1939 for the principal areas, and showing changes. (Figures in thousands of bbls.)

	Nov. 16, 1940 Light Fuel	Nov. 19, 1939 Light Fuel	Change
East Coast	17,452	13,188	+4,264
Texas Gulf	8,555	6,308	+2,247
Okla.Kans.Mo.	1,593	1,799	— 206
Ind. Ill. Ky.	5,884	4,804	+1,040
East of Calif.	37,456	29,390	+8,066
California	10,652	9,903	+ 749
Total U. S.	48,108	39,293	+8,815

	Nov. 16, 1940 Heavy Fuel	Nov. 18, 1939 Heavy Fuel	Change
East Coast	12,114	9,810	+2,304
Texas Gulf	8,871	7,388	+1,483
Okla. Kan. Mo.	2,213	2,723	— 510
Ind. Ill. Ky.	3,532	2,957	+ 575
East of Calif.	33,324	30,760	+2,564
California	73,827	82,000	—8,173
Total U. S.	107,151	112,760	—5,609

While there is currently 4,364,000 bbls. more light fuel oil in storage on the eastern seaboard than at the same time last year, several marketers pointed out that if this storage is turned 4 times during the winter, bottoms will be needed to bring the additional fuel around from the Gulf. This brings conjecture as to what may happen to boat rates during the heavy consuming season.

While rates have shot up over 200% during the past 2 months, they have settled down somewhat late last week, with lower priced fixtures of clean boats reported. By way of explaining the jump in rates during October and November, it was pointed out that relatively good gasoline consuming weather has prevailed along the Eastern Seaboard this winter—estimated at about 6% above last year—and "clean" bottoms were needed to bring motor fuel around to the East Coast from the Gulf. However, one observer said, these bottoms are being converted to the "clean" fuel oil trade, which probably accounted for some of the easiness noted in rates the past week.

Possible Increase Seen

If the country, especially the Middle Atlantic and New England states experience a normal winter, some predict an increase of about 10% in consumption of light fuel oil.

However, consumption last year which caused a relative shortage for a time in late January and early February was due to the extremely cold weather which built up during the first month of 1940. The exceptionally cold weather caused a run on marketers' fuel oil storage, and bidding for boats in the open charter market caused rates to soar to all-time records of 73c for "clean" bottoms.

Some traders were inclined to believe that this situation would not be duplicated this winter, because of the greater amount of fuel in storage on the eastern seaboard, but always qualifying that weather conditions hold the deciding cards in the fuel market.

The proposal for rail rate reductions of 42% on crude and fuel from the middle west and intermediate points to the eastern seaboard has caused no little excitement in the fuel oil market. These rates (see NPN Nov. 20, page 13) have been filed with the Interstate Commerce Commission, to be effective Dec. 20.

However, Gulf refiners have indicated they would fight the establishment of these new rate schedules (see story page 25), and it is understood that companies on the East Coast would fight the application of the new rate schedule.

Possible Shortage Cited

Even if rails are successful in their efforts to put into effect the sharply reduced rates, just how much fuel would move from the West to the East via rail depends on 2 factors: tanker rates, and the price of fuel in Chicago and St. Louis, as well as other origin points of Michigan and southern Illinois.

The possibility of a shortage of fuel oil on the East Coast and on the Gulf also enters the picture, and would probably result in switching movement to the Middle West. However, unless the East suffers a long and exceptionally cold winter such an eventuality is believed unlikely in view of the stock position of fuels on the eastern seaboard and at the Gulf.

At present, with boat rates standing still or sluffing off slightly, and with prices of fuel in the Middle West as they are, traders in the East see little to become worried about in the rate suggestion.

API Refining Division Members Elected; Additional Men Appointed by President

N. P. N. News Bureau

CLEVELAND, Nov. 23.—Election of 20 members of the General Committee of the Division of Refining of the American Petroleum Institute have been announced. Election followed the report of the nominating committee by H. W. Camp, Bartlesville, Cities Service Co., at the recent A.P.I. convention.

New committee members are: C. R. Barton, Tide Water Associated Oil Co., New York; W. F. Burt, Socony-Vacuum Oil Co., New York; Oscar Cordell, Bareco Refining Co., Tulsa; E. D. Cumming, Shell Oil Co., New York; A. D. David, Bradford Penn Refining Corp., Clarendon, Pa.; Bert Fisher, Kendall Refining Co., Bradford, Pa.; J. L. Hanna, Standard Oil Co. of California, San Francisco; G. W. Hanneken, Standard Oil Co. of Ohio, Cleveland; M. Halpern, The Texas Co., New York; A. M. Kelley, Richfield Oil Corp., Los Angeles; W. W. Lowe, Cities Service Oil Co., New York; T. M. Martin, Lion Oil Refining Co., El Dorado, Ark.; Walter Miller, Continental Oil Co., Ponca City, Okla.; G. G. Oberfell, Phillips Petroleum Co., Bartlesville; M. G. Paulus, Standard Oil Co. of Indiana, Chicago; A. E. Pew, Jr., Sun Oil Co., Philadelphia; W. A. Slater, Gulf Oil Corp., Pittsburgh; C. F. Smith, Standard Oil Co. of New Jersey, New York; G. H. Taber, Jr., Sinclair Refining Co., New York; and C. B. Watson, Pure Oil Co., Chicago.

The following members were appointed by the president: Paul G. Blazer, Ashland Refining Co., Ashland, Ky.; C. L. Henderson, Vickers Petroleum Co., Wichita; E. J. Henry, Atlantic Refining Co., Philadelphia; R. B. Jones, Panhandle Producing and Refining Co., Wichita Falls, Texas; and W. L. Stewart, Jr., Union Oil Co. of California, Los Angeles.

Nine New Producing Wells Boost Turner Valley Output

Special to N.P.N.

OTTAWA, Nov. 25.—Of the 9 new wells recently completed in the Turner Valley field, Alberta, 4 will rank as major producers, and the remaining 5 as better than average. The 9 wells are expected to add from 5000 to 9000 bbls. per day to the production of the field. According to the Alberta Conservation Board's production schedule, the 119 older wells in the field will produce a little less than 25,000 bbls. per day in November. December production will likely show a sizeable increase due to the production of the new wells, after allowing for normal decline in the older wells to prevent an unwarranted increase in the gas-oil ratio.

Navy's Oil Storage On Atlantic Coast Seen Within Year

N. P. N. News Bureau

WASHINGTON, Nov. 23. — Navy Department's dream of storing fuel oil on the Atlantic Coast for emergency use may become a reality in the next year or so.

Proposals for the fuel oil storage have been periodically and unsuccessfully laid before Congress for the past 10 years, but the Naval Fuel Board now feels, in view of the defense program, it may finally secure appropriations necessary to go ahead with the program.

Purpose of the storage as outlined by the Navy Department, is to have available an adequate supply of fuel oil at East Coast bases to care for heavy naval operations.

Original plans called for fuel oil storage at strategic points along the Atlantic Coast, but these necessarily will be modified by the acquisition of new naval bases from the British.

Naval Fuel Board has queried the office of Dr. R. E. Wilson, defense commission oil advisor on its plan, and has been informed that while new storage on the Atlantic Coast appears advisable, existing facilities on the West Coast are adequate to meet naval needs.

Oklahoma Allowable Set At 390,000 bbls. Daily

N. P. N. News Bureau

OKLAHOMA CITY, Nov. 26. —In an uneventful proration hearing this morning, Oklahoma Corporation Commission issued bench order setting Oklahoma's December and January crude production allowable at 390,000 bbls. daily.

Of total, 245,520 bbls. was allocated to prorated wells and the remainder to unprorated fields. Allowable is unchanged from November, and 32,600 bbls. below Bureau of Mines' demand forecast. It was believed actual production would average about 400,000 bbls. daily as it has the past few weeks.

Oklahoma Oil Corp. Buys Barnsdall Properties

CHICAGO, Nov. 22.— The Oklahoma Oil Corp., Chicago, has acquired properties of the Barnsdall Refining Co. at 4533 W. Roosevelt Road, Chicago. These include: a two-story office building, warehouse, bulk storage tanks (with an estimated 300,000-gal. capacity), a lubricating compounding plant, and a retail service station.

The transaction was a cash deal, but the amount of money involved was not disclosed. Ben Burakoff is the president of the Oklahoma Oil Corp.

South Dakota Marketers Meet At Sioux Falls on Dec. 10-11

N. P. N. News Bureau

CLEVELAND, Nov. 25.—Program of the annual convention of the South Dakota Independent Oil Men's Assn. to be held in Sioux Falls, S. D., Dec. 10 and 11, will feature discussions of wage-hour and motor carrier laws, testing of petroleum products, and merchandising.

John E. Walsh, Yankton, S. D., attorney will speak on "The Wage and Hour Law and Its Effect on the Bulk Oil Jobber". Mr. Walsh's talk, and discussion to follow it will be held during a closed session for jobbers.

Clair Roddewig, former attorney general of South Dakota, and now attorney for the Bureau of Motor Carriers of the Interstate Commerce Commission at Minneapolis, will discuss "The Motor Carrier Act of 1935, Its Rules and Regulations and its Effect on the Petroleum Transporter".

"Records and Profitable Sales Management" is the subject of a talk to be given by G. W. Sulley, Dayton, Ohio, of National Cash Register Co. Ralph W. Carney, Wichita, Coleman Lamp & Stove Co. will speak on "Welding the Weakest Link".

"Tests of Motor Fuels and What they Mean to the Oil Man", will be discussed by Guy G. Frary, state chemist of South Dakota. Various laboratory equipment used in making tests of petroleum products will be demonstrated and explained by Mr. Frary.

A "Quiz Program" also will feature the 1940 convention and jobbers are asked to submit questions pertaining to the industry to be asked during the quiz.

West Virginia Hears Oil Man Plead for Tax Diversion Law

N. P. N. News Bureau

CLEVELAND, Nov. 3.—In a plea to citizens of West Virginia, to prevent diversion of automotive tax funds to nonhighway purposes, Edwin F. Patrick, secretary of the West Virginia Petroleum Assn., this week pointed out that in the recent national election, three more states passed constitutional amendments preventing this practice.

States which have now amended their constitutions to prevent highway tax diversion are: California, Colorado, Idaho, Kansas, Minnesota, Missouri, Michigan, New Hampshire, Nevada, and North and South Dakota.

Mr. Patrick said: "West Virginia may well follow the example of these states in amending its constitution to protect its road fund. Although the diversion of road funds to nonhighway purposes is not a problem in this state, it is wise for the people to set up a safeguard before the problem arises. It is wise to lock the stable door before there is any possibility of the horse being stolen.

"Earlier in 1940 the state of North Dakota adopted such an amendment, making a total of 4 states to adopt such constitutional reforms in a single year. Public opinion definitely is repudiating the diversion of highway funds as an unsound public policy.

"In some of the states that have adopted amendments to guarantee that all automotive taxes shall be used solely for road improvements, the problem of diversion has never arisen. The people in those states, by taking protective measures now, believe that foresight is better than hindsight.

"West Virginia should now give thought to a similar constitutional defense measure to protect its road funds. Perhaps diversion 'can't happen here.' That is what people in other states thought. With a constitutional amendment in West Virginia we will have full security against any possible misapplication of highway funds."

Discover New Gas Well In Southern Saskatchewan

REGINA, Sack., Nov. 16.—A new gas field has been located in southern Saskatchewan with the recent bringing in by Natural Sodium Products, Limited, of Bishopric, Sask., of a gas well with an estimated flow of 15,000,000 cubic feet a day and a pressure of 1000 lbs. The well is located about 15 miles south of Val Marie, near the Montana Border.

24 Recycling Plants In Texas, Louisiana

TULSA, Nov. 25. — Twenty-four distillate recycling plants are now in operation in Louisiana and Texas, with total potential output of 1,018,000 gals. daily, according to a survey just completed by Western Petroleum Refiners Ass'n.

Five other recycling plants with potential output of 700,000 gals. daily are under construction.

ASME Plans Annual Meeting In New York City, Dec. 2-6

N. P. N. News Bureau

NEW YORK, Nov. 22.—Program of technical papers and sessions is scheduled by the American Society of Mechanical Engineers for its 1940 annual meeting here at Hotel Astor, Dec. 2-6. A number of subjects presented will be of interest to refining and lubricating engineers.

The first lubrication session will be held Monday evening Dec. 2 when the "Lubrication of General Electric Steam Turbines" will be discussed by C. Dantsizen and a paper on "Program for Industrial Lubrication" by V. M. Palmer and C. L. Pope, will be presented. "Effect of Surface Finish on Journal-Bearing Performance" by J. T. Burwell, Jr., J. Kaye, D. W. Van Nymegen, and D. A. Morgan will be presented Dec. 3. Wednesday morning, Dec. 4, Gustave Fast will describe "The Multiple Oil-Film Radial Bearing" and a paper on the "Flow Properties of Lubricants under High Pressure" by A. E. Norton, M. J. Knott, and J. R. Muenger will be given.

To Discuss Pipe Problems

"Solving Pipe Problems — A Mechanical Method for Cases Involving Temperature Expansion" is to be discussed Dec. 4 by F. M. Hill and a paper by C. W. E. Clarke and A. E. White on "Condenser Tubes and Their Corrosion" presented.

Throughout the week there will be other sessions of general interest such as that on boiler feedwater studies on Dec. 2 during which three papers will cover silica in boiler feedwater and its removal. A session on industrial instruments dealing with thermometric time lag and asymptotic reset controllers will be held Dec. 3. Heat transfer in furnaces is up for discussion on Dec. 4 and a session will be devoted to heat transfer with particular relation to the inside of tubes on Dec. 5.

Papers of Interest to Oil Refinery Men Will be Presented at Chemical Meeting

N. P. N. News Bureau

NEW YORK, Nov. 25.—Several papers on subjects of interest to oil refinery chemical engineers will be presented during the annual meeting of the American Institute of Chemical Engineers in New Orleans Dec. 2-4.

"Recent Advancements and Applications of the Thermofor Kiln in the Petroleum Industry" will be described. T. P. Simpson, E. S. Nicholls, and J. W. Payne, Socony-Vacuum Oil Co. authors of the paper, will point out that several additional kilns are now being used in clay treating, further demonstrating the economic importance of this new type unit.

E. C. Williams, Shell Development Co., will discuss the process for manufacture of synthetic glycerine, based on chlorination of propylene, intermediate and allied products, and glycerine derivatives. Packed columns for close fractionation with Stedman packing will be discussed by L. B. Bragg, Foster Wheeler Corp. A general discussion of "Distillation Equipment in the Oil Refining Industry" has been prepared by J. W. Packie, Standard Oil Development Co.

"The Application of Rectangular Co-ordinate Methods to Solvent Extraction Design" will be presented by J. O. Maloney and A. E. Schubert, Pennsylvania State College, and a paper on "The Estimation of Number of Stages Required in Liquid-Liquid Solvent Extraction of Lubricating Distillates" has been prepared by V. G. Skogan and M. C. Rogers, University of Minnesota.

E. O. Bennett, Continental Oil Co., has prepared a paper on the "Economics of Design and Operation for Pressure Maintenance and Condensate Recovery."

'Gas,' Lube Taxes Still in Picture

WASHINGTON, Nov. 20.—Increased federal taxes on gasoline and lubricating oils are still in the picture, Treasury officials say, although government tax experts at the moment are primarily interested in levies producing large amounts of revenue, including an "effective excess profts tax" and a higher personal income tax.

House Ways and Means Chairman Doughton, meanwhile, following a White House visit, has proposed that Congress, when it meets in January, undertake to raise enough revenue to cover regular government expenses, exclusive of defense outlays.

This would mean Congress would have only to raise about $1,000,000,000 in new taxes, since the $560,000,000 spent annually by the Veterans Administration is now classified by the Treasury as a national defense expenditure.

Refining Technology

INCLUDING INTERNATIONAL PETROLEUM TECHNOLOGY

WASTE WATER SEPARATORS

"Though the mills of God grind slowly, yet they grind exceeding small;
"Though with patience He stands waiting, with exactness grinds He all."

This quotation from "Retribution" written in the early seventeenth century by Friedrich von Logau seems to describe the type of grinding done by some of the technical committees of the American Petroleum Institute. Eventually, after long continued work, discussion, disagreements, compromise, and application of finishing touches a committee assignment may be completed. Other committees seem to go on and on reporting progress with projects whose goals can only be approached asymptotically (Howdy Boy, Here's a new one . . . The NON-Technical Publisher.) as for example, those groups who seek improvement in accident and fire prevention.

One of the jobs to be completed in committee during the recent annual meeting of the institute was the preparation of the third edition of Section 1 of "Disposal of Refinery Wastes" entitled "Waste Water Containing Oil." The Committee on Disposal of Refinery Wastes has been working on the design of an improved water separator almost ever since the second edition was published in 1933, and well it should, considering the amount of research and design development which has taken place in the preparation of the present edition, which will be announced at an early date.

The new standard waste water separator unit recommended by the committee is of smaller size but of comparable or improved effectiveness over the design described in the 1933 edition of Section 1. The greater value of this new design appears also to be recognized by the committee in placing a price of $5 on the preprints of the new edition instead of 50 cents, as on the second edition.

J. S. Hess, Sinclair Refining Co., and his committee have done an outstanding piece of research and development. If any man on that committee deserves particular recognition, it is W. B. Hart, The Atlantic Refining Co., who refused to be its chairman in order to be more effective in the actual work of the committee. Those who attended the 1938 Mid-Year meeting of the institute in Wichita will recall that Mr. Hart described there the work which had been done on a model separator.

Since that time several full-sized waste-water separators of similar design have been built at different refineries. Separators of the finally approved design are being completed in one refinery and plans for construction of others have been made for at least one other refinery. The results from the operation of these full-sized separators are said to justify fully the recommendation of the design described in the new edition.

AZEOTROPIC DISTILLATION

It is an easy and logical step sometimes to arrive at the conclusion that a proposed course of action is impossible. Thus, by the very definition of fractional distillation, we know that it is impossible to separate by this means two miscible liquid substances having the same boiling point—or do we? We can imagine "Boss" Kettering's comment on such a conclusion, having heard him suggest to automotive engineers that they throw out the laws of thermodynamics if they no longer serve a useful purpose.

Chemical engineers have found no necessity for discarding their definition of fractional distillation. Instead, they have pushed the miscible liquids of the same boiling point around a little in order to make them separate by ordinary fractionation. Dr. F. D. Rossini and two of his colleagues on A.P.I. Research Project 6 at the National Bureau of Standards described how two hydrocarbons of the same boiling point can be separated in the presence of a third substance in a paper presented at the recent annual meeting of the institute. They recommended the method to refiners as worth consideration in commercial scale operations.

Prior to the separation of the hydrocarbons of the same or nearly the same boiling point, a third substance is dissolved into the solution. This substance is chosen for its ability to change the boiling points of the two hydrocarbons by different amounts. The hydrocarbons can then be fractionated and the third substance removed from the separated hydrocarbons. Distillation under these conditions is known as azeotropic distillation.

While no evidence was presented that this method of separation has been used anywhere in commercial scale petroleum refining operations, it was brought out that the chemical industry has several commercial applications. One example is the use of benzene to obtain absolute ethyl alcohol from its minimum-boiling azeotropic mixture with water. Another application is in the purification of commercial dioxane by removing the impurities of low-boiling aldehydes through the addition of water and a volatile inorganic acid.

As closer and closer fractionation of petroleum fractions becomes necessary, this proposed method may offer the solution of the problems involved. Already the use of solvents in solvent extraction methods in lubricating oil manufacture have accustomed the refiner to the use of solvents and it is but a short step further to azeotropic distillation methods. Solvents such as methyl and ethyl alcohol, methyl cyanide, acetic acid, ethylene glycol monomethyl ether acetate, ethylene glycol monobutyl ether, and diethylene glycol monomethyl ether have been used successfully in Dr. Rossini's laboratory.

Catalytic Isomerization of Butane Yields 67-74% Isobutane*

By B. Moldavskii and T. Nizovkina†
Translated by J. G. Tolpin‡

ABSTRACT

Normal butane has been isomerized to isobutane and vice versa using aluminum chloride, and the equilibrium composition of the mixture of the two butanes determined for the temperature interval 70-180°C. (158-356°F.). A Podbielniak type fractionation was used for analysis. At 70-110°C. isomerization can be effected without formation of byproducts. At higher temperatures cracking sets in forming mainly propane. Normal butane shows a higher stability in this reaction than isobutane. At 130°C. a 37.2% isomerization after a single passing of normal butane over aluminum chloride was observed with a maximum of 67.3% isobutane reached at equilibrium; this resulted from four subsequent recirculations of the butane-isobutane fraction separated from the product obtained in the preceding experiment. Liquid-phase isomerization in sealed tubes at 70°C. in the presence of 0.5 mole $CuSO_4 \cdot 2HCl$ per mole $AlCl_3$ gave 74% isomerization. The temperature dependence of the equilibrium constant of isomerization of butanes at 70-180°C. is expressed by log $K_p = 611/T - 1.204$.

THE results obtained in the investigation of isomerization of normal hexane and normal octane were given in previous communications (1, 2). Because no reliable analytical methods were available, only the total amount of isomerized hydrocarbons could be determined in those studies. Hence further work was concerned with isomerization of lower paraffins for which the analytical methods could be developed and the catalytic isomerization studied in detail.

The results given here were obtained in experiments on the catalytic isomerization of normal butane to isobutane and vice versa under the influence of aluminum chloride. The composition of equilibrium mixtures of normal butane and isobutane within the interval of temperatures 70-180°C. has also been determined.

Few experimental data on isomerization of butanes have been published. One experiment (3) has been described in which 60 g. of normal butane were heated in an autoclave for 6 hours at 175°C. in the presence of aluminum chloride. The following products were obtained: 6 g. normal butane, 8 g. isobutane; 25.2 g. propane; 4.6 g. ethane; 2.7 g. methane and 0.04 g. hydrogen. Thus in this experiment extensive decomposition took place simultaneously with the isomerization of normal butane.

Montgomery et al (4) described briefly the experimental determination of the equilibrium between normal butane and isobutane in the liquid phase at 27°C. The authors obtained equilibrium concentrations reacting normal butane as well as isobutane with aluminum bromide for two months. According to them, the equilibrium mixture contained in the liquid phase 78-82% isobutane and 18-22% normal butane.

The equilibrium composition of butanes resulting from isomerization can be calculated theoretically. Kassel (5) derived on the basis of quantum-statistical data (assuming free rotation around the C-C bond) and heats of isomerization of butanes, an approximate expression for the free energy of conversion of normal butane into isobutane. The temperature dependence of the equilibrium constant in isomerization of normal butane to isobutane is, according to him, expressed as follows:

$$\log K_p = \frac{356}{T} - 0.900$$

Kassel's calculation was later verified by Pitzer (6) who took into consideration that the rotation around the C-C bond is retarded. Parks and co-workers (7) calculated the entropy of the third law of thermodynamics, and from these data and the heat of isomerization determined the

*Translated from Zhurnal Obshchei Khimii (Journal of General Chemistry) Vol. 9, No. 18, pages 1652-1660, 1939. Originally entitled "Isomerization of Butanes and Their Proportions at Equilibrium."

†State Institute of High Pressure, U. S. S. R.

‡Gray Processes Corp. Translation submitted by the Petroleum Division of the American Chemical Society.

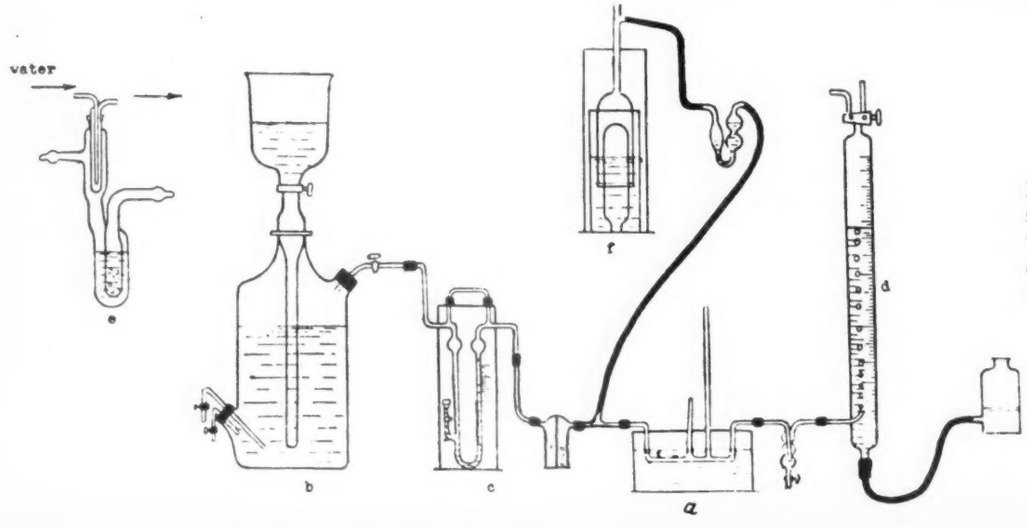


Fig. 1. Vapor phase isomerization experiments with butanes were carried out in this apparatus. The aluminum chloride reactor is at **a**. A special reactor is shown at **e**

free energy of conversion of normal butane into isobutane. The data obtained by them deviate somewhat from the data of the above-mentioned writers (8).

Serebryakova and Frost (9) indirectly calculated the equilibrium constant of isomerization of butanes from experimental data using the equilibrium constants of isomerization of butanes determined by them and the equilibrium constants of dehydrogenation of butanes based on the data of Frey and Huppke (10). They indicate a substantial difference between the values of K_p as found by them and given by Kassel and conclude that the calculations of the latter writer are of insufficient exactness.

Experimental Results

Normal butane was prepared from primary normal butyl alcohol and isobutane from isobutyl alcohol. The alcohols were hydrogenated in the presence of molybdenum sulfide in an autoclave at 300-310°C. (572-590°F.) and an initial hydrogen pressure of 50 atmospheres. The resultant butanes were purified with bromine water followed by treatment with alkali. The gas was "frozen out" in carbon dioxide to remove air and hydrogen from it and stored in a small metallic tank. When necessary, final purification of the gas was effected in the apparatus described below. An average sample which boiled at one definite temperature was used for each experiment.

The aluminum chloride used in the experiments was prepared from the technical product. The latter was sublimed in a glass tube in a steam of dry air, then mixed with aluminum dust and sublimed in a sealed tube bent at a right angle. The final aluminum chloride was a perfectly white powder and was kept in sealed tubes.

The vapor phase isomerization experiments with butanes were carried out in the apparatus shown in Fig. 1. The aluminum chloride was charged into the small reactor (a) which was equipped with two outlets and was kept in a glycerine bath heated by means of an electrical hot plate. The temperature of the experiments fluctuated within 1-2°. The butanes were passed from the gasometer (b) through the flowmeter (c) into the Tishchenko bottle containing concentrated sulfuric acid and then into the reactor, after which they were collected in the burrette (d). Dry hydrogen chloride from the gasometer (f) which was filled with concentrated sulfuric acid, was slowly passed into the reactor along with the butanes. The rate of flow of the hydrogen chloride gas was about 0.1 of that of butanes. In the experiments at 130-150°C. a reactor of a diameter 10 mm. and 175 mm. long was used. This was charged with 9-10 g. of aluminum chloride in the form of granules mixed with powdered aluminum chloride. In the experiments performed at 110°C. a reactor of the same diameter but 500 mm. long and containing about 30 g. of aluminum chloride was used.

Since at 180° aluminum chloride is strongly sublimed and clogs the passages, the experiments at 180°C. were carried out using the same setup except for the reactor. It consisted of a wide glass tube with a test tube fused into it and fitted at the end with a number of holes to permit passage of the gas (See Part (e) Fig. 1). The entire vessel was filled with the catalyst, which was aluminum chloride fused with 15% by weight of potassium chloride mixed with ground glass in order to increase the surface. At 180°C. the catalyst was converted into a mobile liquid and the gas could be bubbled through it. Into the upper tube fused to the reactor was inserted a water-cooled condenser which cooled the gas emitted from the reactor. As in the previously described experiments, the reactor was heated by a glycerine bath. The temperature fluctuations in these experiments amounted to 3-4°C.

The experiments in the liquid phase were carried out in hard glass test tubes. The tube with the catalyst and liquefied gas was sealed, placed into a copper case and shaken in a water thermostat.

Analysis of Isomeric Butanes

The analysis of mixtures of paraffins is very complicated because of their low reactivity, and no exact quantitative methods are available at the present time for the determination of iso compounds in mixtures with normal hydrocarbons. In individual cases an approximate determination of the isoparaffin content can be obtained by means of chlorination with the aid of antimony pentachloride (11) or by nitration according to Konovalov.

The method of chlorination with antimony pentachloride was verified by the writers for the mixtures of normal butane and isobutane but gave no satisfactory results. For this reason a physical method for analysis of these mixtures was used. Since the difference in the boiling points of normal butane and isobutane is about 10°C. the separation by fractionation seemed possible. A Podbielniak type apparatus (12) was made for this purpose, using the modifications suggested by MacMillan (13). This writer carried out a large number of studies on fractionation in adiabatic columns using different gaseous mixtures, among them normal butane, and indicated a number of constructional changes in the columns thereby raising their separating ability.

The apparatus used by the present writers is shown in Fig. 2. The Podbielniak type column was 91 cm. long and had an internal rectifying tube of 3.8 mm. diameter. The flask for condensation of the gas was conical in shape and had a ground connection to the internal rectifying tube. The flask has two outlet tubes, one fitted with a stopcock and serving for introduction of the gas to be condensed and the other for the wire for heating the liquid in the flask.

The internal heating facilitates a very uniform boiling of the liquid. The rectifying tube was packed with an aluminum spiral 1.8-2.0 mm. in diameter around a rod of nichrome wire of 0.6 mm. diameter. In the upper part of

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REFINING TECHNOLOGY

November 27, 1940

Isomerization of normal butane to isobutane has been accomplished in the laboratory at low temperatures by using aluminum chloride as a catalyst. A maximum yield of 67.3% was obtained but this was increased further under certain circumstances R-422

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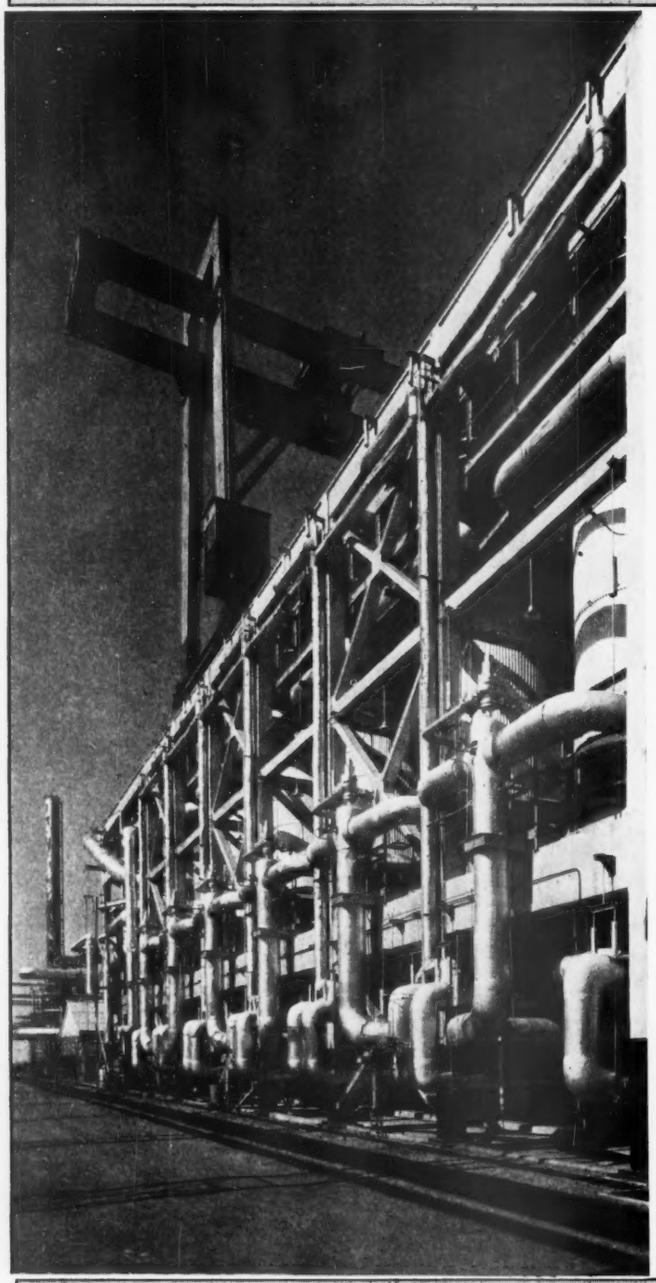
New Equipment FOR New Processes



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the rectifying tube (5.5 cm. upwards from the point where the column begins to widen) star shaped packings were placed with the points occupying ⅜ of the diameter of the internal rectifying tube and spaced at 6 mm. intervals. In the upper wider part of the column the following is used for its cooling. The packing of the rectifying tube is wound outside with a copper spiral. Around the spiral in the space between the internal tube and the wall of the column, 250 cc. aluminum beads were placed of 4-5 mm. diameter. On top of the beads a small copper vessel with two tubes was placed for charging liquid air. The bottom of the vessel had 9 holes of 1 mm. diameter. Through them the liquid air passed and moistened the surface of the beads thus creating a uniform cooling. This cooling portion of the column makes the apparatus very sensitive to the slightest changes of temperature and reduces the amount of liquid air required for the distillation.

The temperature was measured by a copper-constantan thermocouple connected to a millivoltmeter designed by the Physical Institute of the Leningrad State University, covering a range of 35 x 10^{-6} volt and with an internal resistance of 29 ohms. For temperatures corresponding to the boiling point of methane (—164°C.) an additional resistance of 25 ohms was used.

In the fractionation of butane mixtures burettes connected to pressure compensating burettes filled with a solution of sodium chloride were used as receivers. For the mixtures of normal butane with isobutane exact distillation requires a comparatively slow evaporation of the gas (6-10 ml. per min.) and a reflux of 10 drops per min. During the change from one fraction to another a still slower distillation rate is recommended.

The performance of the apparatus was tested on artificial mixtures of normal butane with isobutane. The distillation data obtained were reported graphically and the number of fractions determined by means of the method of equal plateaus. The data on analysis of these mixtures are reported in Table 1 and in Fig. 3.

In order to compare individual distillation runs the same mixture of the gases was distilled twice, the first

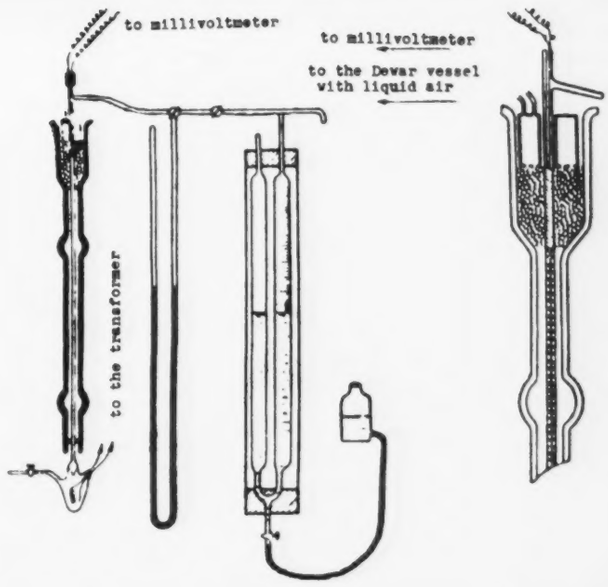

Fig. 2. A modified Podbielniak type apparatus was employed for analysis of gases. The column was 91 cm. long with an internal rectifying tube of 3.8 mm. diameter

time using two liters and the second time 1600 ml. of the gas. The following results were obtained:

First distillation: 61.6% normal butane and 38.4% isobutane

Second distillation: 61.0% normal butane and 39.0% isobutane.

To account for the small amounts of normal butane remaining in the flask and in the rectifying tube after the distillation, a few ml. of isopentane were added to the liquefied gaseous mixture before the fractionation. The higher boiling isopentane expelled the remaining normal butane into the receiver and thus the entire distilled gas could be quantitatively collected. The purity of the fraction of normal butane obtained in the distillation was tested by chlorinating it with antimony pentachloride and

TABLE 1

Analysis of Synthetic Mixtures of Normal Butane and Isobutane

	Used				Obtained			
	Isobutane		Normal Butane		Isobutane		Normal Butane	
No.	ml.	% of the total gas	ml.	% of the total gas	ml.	% of the total gas	ml.	% of the total gas
1	1625	65.0	875	35.0	1600	64.0	900	36.0
2	920	49.0	955	51.0	880	47.0	995	53.0
3	286	23.0	924	77.0	275	22.3	935	77.7
4	191	10.0	1748	90.0	150	7.7	1789	92.3

TABLE 2

Isomerization of Butanes in the Vapor Phase

	Conditions of the Experiments					Gaseous Reaction Products					
Exp. No.	Composition of the Initial Gas	Catalyst	Grams	Temp. °F.	Rate of flow of the gas, Ml./Hr.	Isobutane	Normal Butane	C_2H_6	CH_4	Normal Butane-Isobutane Fraction Isobutane, %	Normal Butane-Isobutane Fraction Normal Butane
1	Normal butane	$AlCl_3$	9.1	130	380	36.7	61.8	None	0.2	37.2	0.59
2	Gas from Exp. 1	$AlCl_3$	9.1	130	395	52.2	45.0	None	*	53.7	1.16
3	Gas from Exp. 2	$AlCl_3$	From Exp. 2	130	371	58.0	38.0	None	0.3	60.5	1.53
4	Gas from Exp. 3	$AlCl_3$	9.0	130	300	61.5	32.6	None	1.2	65.8	1.88
5	Mixture of 65% isobutane + 35% normal butane	$AlCl_3$	10.7	130	400	65.0	31.5	None	None	67.3	2.06
6	Gas from Exp. 5	$AlCl_3$	From Exp. 5	130	320	64.0	31.7	None	*	66.9	2.02
7	Isobutane	$AlCl_3$	From Exp. 4	130	320	73.4	22.5	None	0.6	76.5	3.25
8	Gas from Exp. 7	$AlCl_3$	From Exp. 7	130	315	73.4	27.8	None	*	70.6	2.40
9	Mixture of 69% isobutane + 31% normal butane	$AlCl_3$	30.0	110	288	66.7	26.6	None	None	73.4	2.76
10	Gas from Exp. 9	$AlCl_3$	From Exp. 9	110	288	71.7	26.3	None	None	71.7	2.53
11	Normal butane	$AlCl_3$	10.1	150	330	37.0	21.0	38.6	*	63.8	1.76
12	Isobutane	$AlCl_3$	10.5	150	340	21.2	12.4	55.0	9.8	63.1	1.71
13	Isobutane	$AlCl_3$ + 15% KCl	44.0	180	350	59.0	25.6	10.0	5.0	70.0	2.33
14	Gas from Exp. 13	Ditto	46.2	180	310	51.0	34.6	8.0	*	59.0	1.43
15	Mixture of 63% isobutane + 37% normal butane	Ditto	50.0	180	340	55.0	38.9	6.0	None	59.0	1.43
16	Gas from Exp. 15	Ditto	From Exp. 15	180	330	48.0	34.8	9.0	7.0	58.0	1.38

*Not determined.

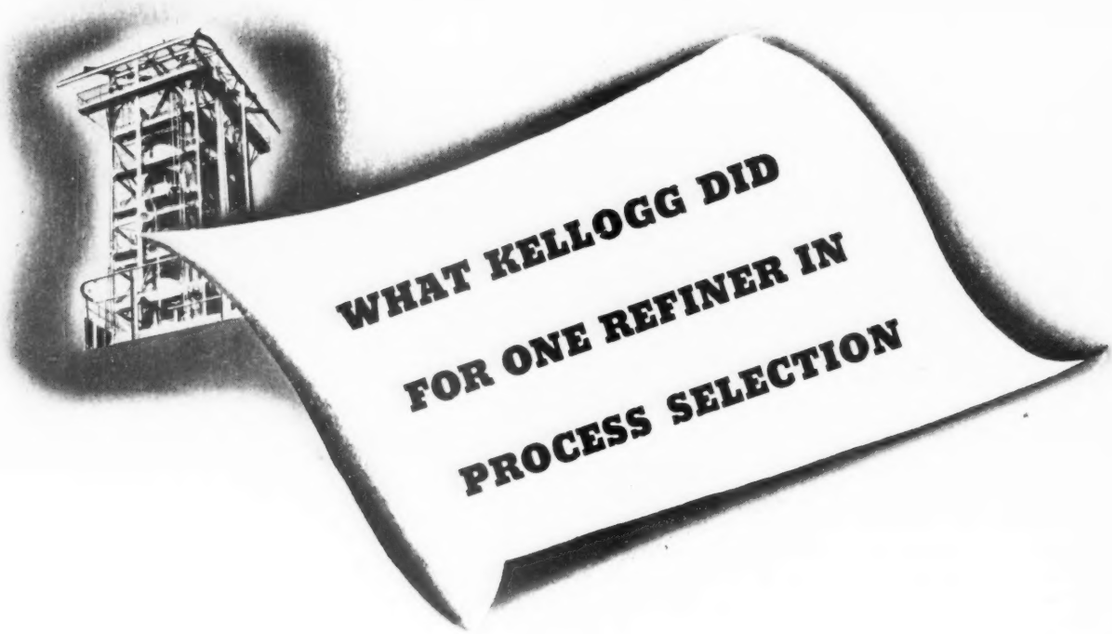

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TABLE 3

Isomerization of Butanes in the Liquid Phase at 70°

Exp. No.	Composition of the initial gas	Conditions of the experiments: Used $AlCl_3$ and $CuSo_4$·2HCl per cent by wt.	Conditions of the experiments: Duration of the experiments, hrs.	Gaseous reaction products: Composition, per cent by vol. Isobutane	Gaseous reaction products: Composition, per cent by vol. Normal Butane	Gaseous reaction products: Butane-isobutane fraction, per cent by vol. Isobutane	Gaseous reaction products: Butane-isobutane fraction, per cent by vol. N-butane
17	Normal butane	30	2.0	48.3	51.7	48.3	0.93
18	Isobutane	30	2.5	79.6	20.4	79.6	3.90
19	Mixture of 65% isobutane and 35% normal butane	30	4.0	68.9	31.1	68.9	2.21
20	Mixture of 70% isobutane and 30% normal butane	57	7.5	74.3	25.7	74.3	2.89
21	Mixture of 91% isobutane and 9% normal butane	38	7.5	75.8	24.2	75.8	3.13
22	Gas from Exp. 19	38	7.0	73.9	26.1	73.9	2.83

the absence of branched chain hydrocarbons in it was shown.

Isomerization of Butanes

The experimental results are reported in Tables 2 and 3. The gas was fractionated and the amount of hydrocarbons, except methane, determined from the size of the plateaus on the distillation curves. The methane in the first fraction, which was a mixture of methane and air, was determined by combustion over copper oxide after removal of oxygen with pyrogallol. In the experiments in which the amount of methane was not determined, the total quantity of the gas was calculated, leaving the first fraction out of account.

In experiments carried out at high temperature a small amount of hydrogen was also found in the first fraction of the gas. In experiment 12 this amounted to 1.4%. In the experiments at 130°C. after the methane fraction was distilled off, a rapid rise of the temperature to the boiling point of isobutane took place without stopping at the boiling points of ethane and propane. In the experiments at 150° and 180°C. formation of propane was also observed.

In no experiment were plateaus observed on the distillation curves corresponding to the boiling point of ethane. A certain amount of ethane could, however, be present in the intermediate fraction between the methane and the propane fractions in the experiments at 150° and at 180°C. and also in mixture with propane for the intermediate fraction between the methane and isobutane fractions in the experiments at 130°C. However, judging from the size of the intermediate fraction, the total amount of these hydrocarbons could not exceed 5%.

It is seen from the data obtained in Experiment No. 1 that normal butane is isomerized in a single passing over aluminum chloride at 130°C. to the extent of 37.2%. By subsequent passing of the butane-isobutane* fraction obtained in the first experiment (Experiments Nos. 2, 3 and 4) the percentage of isobutane in it was raised to 65.3%. Since the mixture obtained from Experiment No. 4 was insufficient for Experiment No. 5, a similar butane-isobutane mixture was prepared and the isomerization experiments continued with it. The isobutane produced (Experiment No. 5) amounted to 67.3% and this amount remained practically unchanged upon repeated recycling (Experiment No. 6), which indicated that equilibrium concentrations had been attained. At 130°C. experiments were also carried out starting with isobutane, two passings of which over aluminum chloride gave a butane-isobutane mixture containing about 71% isobutane. The experiments with isobutane were not continued further after reaching the equilibrium proportions.

In the experiments carried out at 130°C. isomerization constituted the basic reaction and the extent of decomposition was insignificant. Since the isomerization velocity of butanes at low temperatures is very small, a mixture of a composition close to the equilibrium composition was used in the experiments at 110°C. A larger amount of aluminum chloride was employed than was used in the experiments at 130° and 150°C. Formation of no fractions boiling lower than isobutane was observed in the experiments at 110°C. (Experiments 9 and 10).

At 150°C. decomposition reactions assume substantial proportions. The basic product of this reaction is propane.

A comparison of Experiments 11 and 12 indicates that the composition of the butane-isobutane fraction obtained in a single passing of either normal butane or of isobutane is the same and that consequently equilibrium concentrations were reached. It is interesting to note the considerable difference in the stabilities of these two hydrocarbons as seen from a comparison of the composition of the gaseous products obtained in Experiments 11 and 12. In the experiment with isobutane almost 1.5 times as much propane was formed as in the experiment with normal butane.

In experiments carried out at 180°C. a considerably smaller decomposition of butane was observed because aluminum chloride mixed with 15% potassium chloride was used. This catalyst possessed a lower activity and a lower cracking ability. It is seen from Experiments 14, 15 and 16 that the equilibrium concentration of isobutane in the butane-isobutane mixture amounts to 58-59%.

The experiments on isomerization in the liquid phase were carried out at 70°C. and, as described above, in sealed glass tubes. Instead of the gaseous hydrogen chloride required for activation of aluminum chloride the compound $CuSO_4$·2HCl previously used by the writers (1) was used in amounts of 0.5 mole/mole aluminum chloride. The results of these experiments are reported in Table 3. No decomposition was observed under these conditions. The tubes were about half filled with butanes. The first two experiments (17 and 18) were carried out with pure normal butane and isobutane in order to determine the velocity of isomerization in the liquid phase. Further, for determination of the equilibrium concentrations, experiments were carried out with mixtures of butanes close to the equilibrium concentrations. In Experiments 19 and 20 concentrations of isobutane were started with lower than that required by the equilibrium and in Experiments 21 and 22 higher concentrations of isobutanes were used than required by the equilibrium. It is seen from Experiments

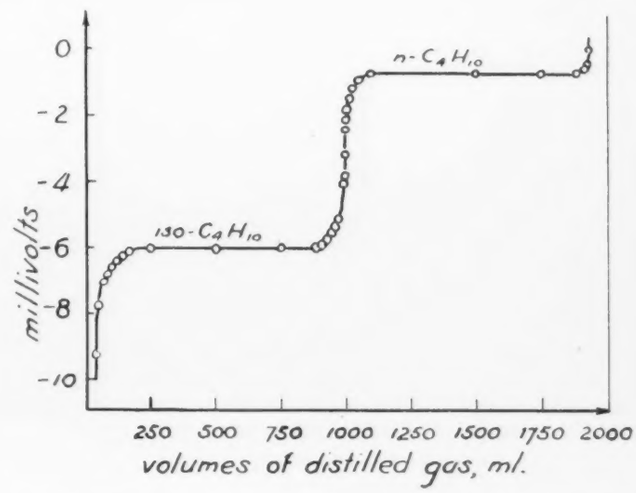

Fig. 3. Distillation curve of the mixture of 49% isobutane and 51% normal butane

*For each subsequent experiment the fraction normal butane-isobutane was collected after the distillation.

TABLE 4

Calculation of the Equilibrium Proportions of Normal Butane and Isobutane

$$K_p = \frac{\%\ \text{isobutane}}{\%\ \text{normal butane}}$$ (from data of Table 2)

t°C	t°K	Exp. No.	Mean values	Calculated values: log K_p	Calculated values: K_p
70	343	20; 22	3.8	0.580	0.577	3.8
110	383	9; 10	2.6	0.415	0.391	2.5
130	403	5; 6	2.0	0.301	0.312	2.1
150	423	11; 12	2.7	0.230	0.240	1.7
180	453	14; 15; 16	1.4	0.146	0.144	1.4

20 and 22 that the same composition resulted regardless of the starting mixture (74.3-73.9% isobutane).

Discussion of Results

On the basis of the results shown in Tables 2 and 3 the equilibrium constants normal butane $\rightleftarrows$ isobutane in the temperature interval 70-180° were calculated. The data are given in Table 4.

Since the experiments at 70° C. were carried out in the liquid phase and the composition of the butane-isobutane fraction shown by analysis corresponded to the total amount of these components in the liquid as well as in the vapor phase, the data obtained at 70° C. were recalculated on the basis of the law of Raoult in order to determine the composition of the vapor phase. As the vapor phase in these experiments amounted to 6-9% by weight of the total amount of butanes, it could be assumed without great error that the entire butane-isobutane mixture was in the liquid phase.

On the basis of the data given in Table 4 a graph was constructed showing the dependence of the equilibrium constant upon temperature (Fig. 4) and an equation derived expressing within the limits of experimental error the dependence of the equilibrium constant of isomerization of normal butane to isobutane within the interval 70-180° C. as follows,

$$\log K_p = \frac{611}{T} - 1.204$$

In the columns 6 and 7 of Table 4 the values of log K_p and K_p are given calculated by means of this equation and showing the deviations of these values from the experimental data. Fig. 5 shows the dependence of the equilibrium percentage of isobutane in mixture with normal butane upon temperature as calculated with the aid of the above equation. For the sake of comparison curves are also given based on the data of Serebryakova and Frost

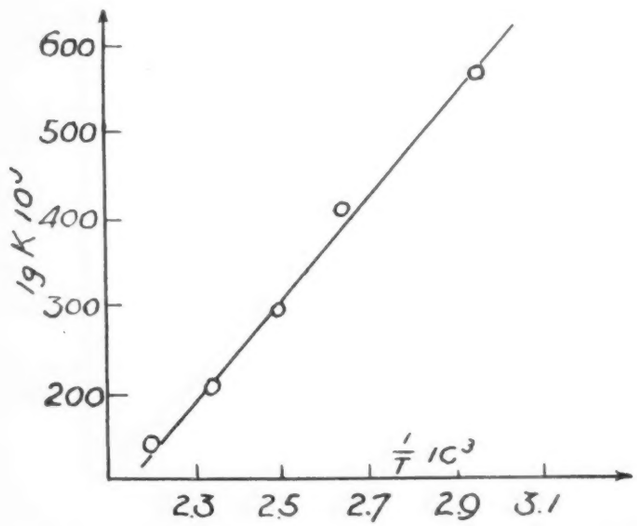

Fig. 4. This curve shows the dependence of the equilibrium constant upon temperature

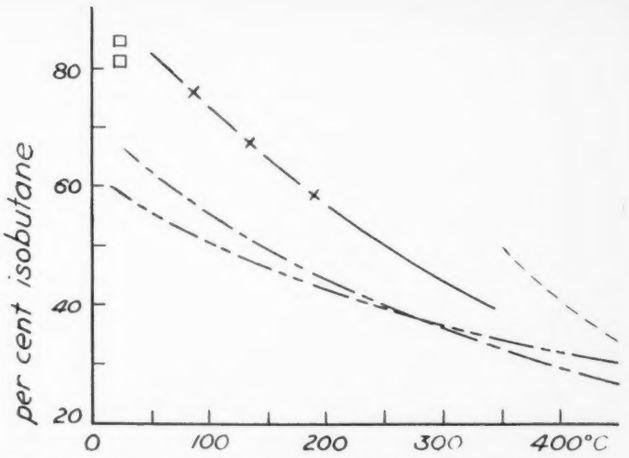

Fig. 5. The dependence of the equilibrium percentage of isobutane in mixture with normal butane upon temperature, as calculated with an equation derived from Fig. 4, is shown. The writers' data is the curve determined by points x. Other curves were calculated from data of other experimenters

(9), Kassel (5), and Pitzer (6) as well as the equilibrium percentage of isobutane experimentally determined in the liquid phase at 27°C. by Montgomery and co-workers (4) and recalculated by the present writers for the vapor phase on the basis of the law of Raoult. As seen from the curves of this figure the experimental data of the last-mentioned authors are quite close to those obtained by the present writers. Concerning the theoretical calculations of the equilibria, considerable differences are observed between these and the data reported in the present study, which would indicate error in those calculations.

Conclusions

1. The isomerization of normal butane to isobutane in the presence of aluminum chloride in the temperature interval of 70-180° was investigated.

2. It was shown that at low temperatures (70-110°) the process of isomerization can be carried out without formation of byproducts. At higher temperatures isomerization of butanes is accompanied by cracking with formation of propane as the basic product.

3. The dependence of the equilibrium constant in isomerization of butanes upon temperature at 70-180° C. is expressed by the following equation:

$$\log K_p = \frac{611}{T} - 1.204$$

4. It was shown that between the experimentally determined equilibrium concentrations and those indicated in the literature and based on theoretical calculations considerable differences exist indicating errors in these calculations.

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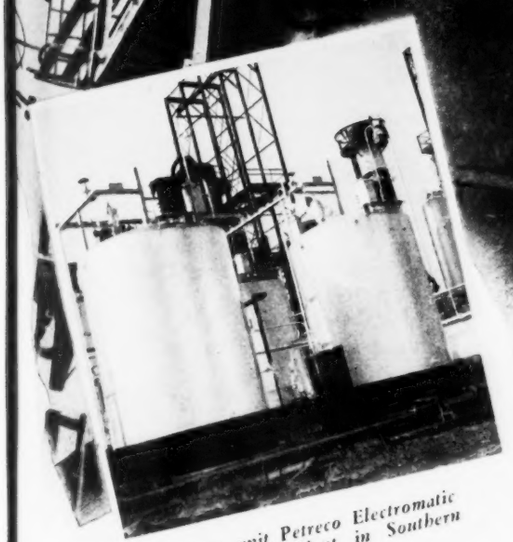

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TUBULAR frame scaffolds are coming into general use at refineries of Standard Oil Co. of Louisiana and are reported to have several advantages over wood. During the past year several have been purchased for trial. These are the sectional tubular frame type adopted generally by large contractors. A wider use of these scaffolds by the various crafts in the refinery should be encouraged, according to J. W. Carmena, Maintenance and Construction Department, Baton Rouge, writing for The Stanocolan.

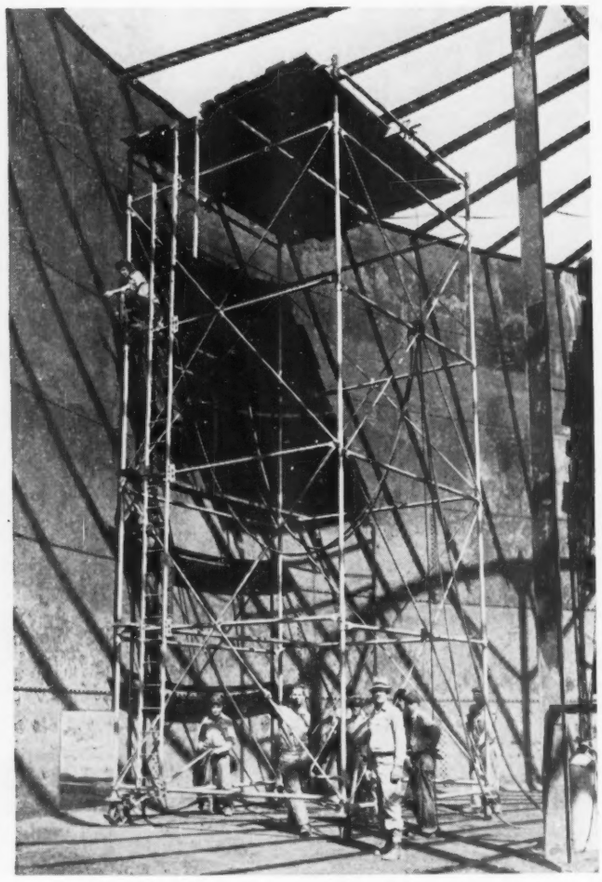
The principal advantages of sectional tubular metal scaffolds are better portability, quicker erection, fireproof, and greater safety. A further advantage is their 100% salvage.

Three metal scaffolds used at Baton Rouge are described as follows: (1) 5 x 5-foot platform, 6-foot maximum height, supports a live load of 1000 pounds, weighs (with decking) less than 400 pounds, is portable in a pushcart, can be taken through a 24-inch manhole and erected or dismantled by two men in 10 minutes.

(2) 5 x 5-foot platform, 15-foot maximum height, supports a live load of 1000 pounds, weighs (with decking) less than 500 pounds, is portable in a pushcart, can be taken through a 24-inch manhole and erected or dismantled by three men in 20 minutes.

(3) 5 x 10-foot platform, 25-foot maximum height, supports a live load of 1000 pounds, weighs (with decking) less than 1000 pounds, is portable in a light truck, can be erected or dismantled by four men in 30 minutes.

Light 5 x 5-foot tubular metal scaffolds erected by pipefitters for demonstration



A 12 x 12-foot heavy metal scaffold used in reroofing a tank

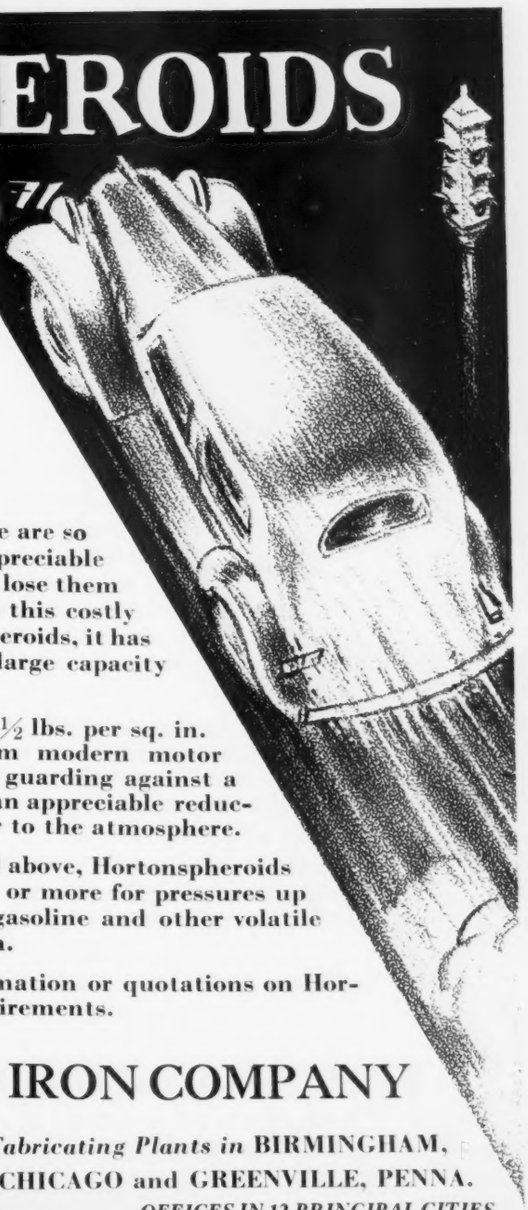
These light metal scaffolds are partly interchangeable so that parts of one may be used on another. Each scaffold is identified by a distinctive color so there will be no mixing of parts. Locked and bolted joints are used in assembly.

In addition to the above three scaffolds three heavy tubular scaffolds have been provided as well as two structural angle scaffolds. The tubular scaffolds have 12 x 12-foot platforms and have been fitted so that one can be made 8 x 8 feet and the other two 10 x 10 feet. This will permit combination areas of 8 x 10 feet, 8 x 12 feet, and 10 x 12 feet. The base sections have a platform height of 8 feet and extensions are 6½ feet each to give platform heights up to 40½ feet. All are equipped with heavy swiveled castors to facilitate moving. The scaffolds are used for working on tanks.

The heavy scaffolds are capable of supporting 3000 pounds of live load. They weigh about 4100 pounds each, including the lumber decking, and are transported in a 2½-ton truck. Five men can move one of these scaffolds through a 20 to 24-inch manhole, and can erect it to full height inside of a tank in four hours. Three hours is the dismantling and removing time for the same crew.

Several rules have been worked out by the safety de-

HORTONSPHEROIDS KEEP the "GO" in your GASOLINE



ANTI-KNOCK and quick starting qualities in gasoline are so important to the consumer and represent such an appreciable increase in production cost that obviously no one wants to lose them through evaporation. Nor is it necessary to put up with this costly waste. Since the development of low pressure Hortonspheroids, it has been possible to obtain economical storage in relatively large capacity units (80,000 to 100,000-bbls.)

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In addition to the low pressure units mentioned above, Hortonspheroids are available in standard sizes up to 30,000-bbls. or more for pressures up to 30 lbs. per sq. in. for the storage of natural gasoline and other volatile blending stocks used in motor fuel production.

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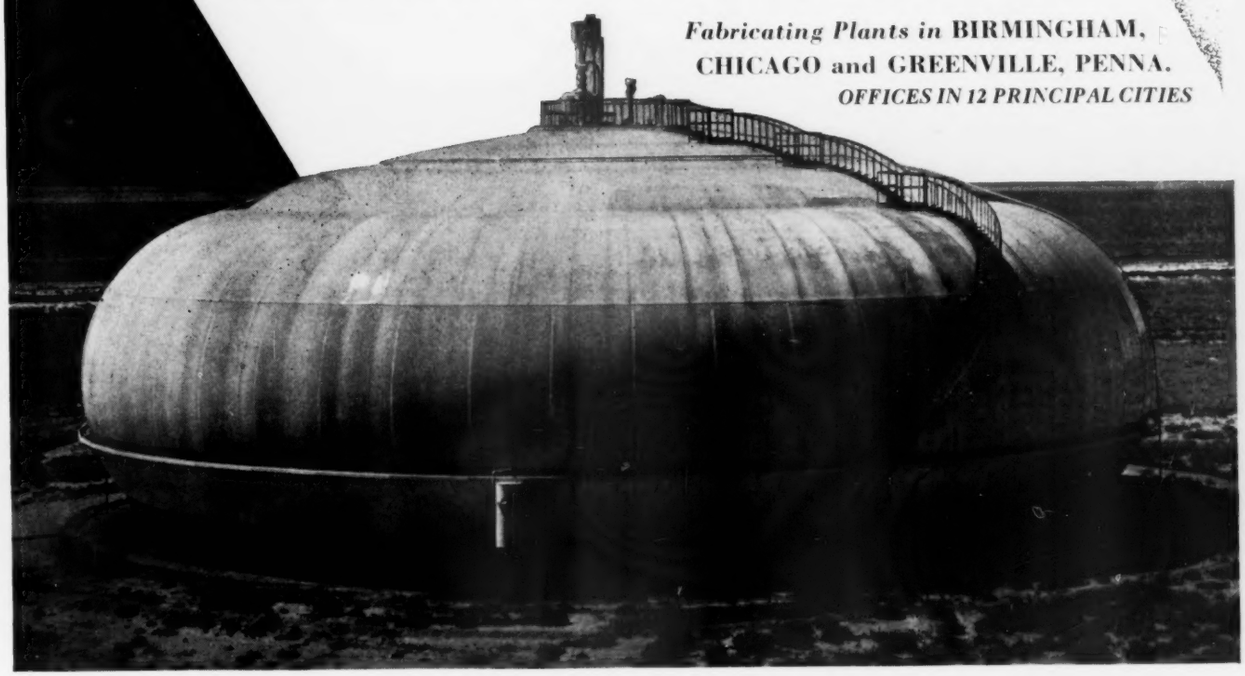


partment in connection with the use of the scaffolds. Among these rules are the following:

1. They must be erected under the supervision of a mechanic or handyman's rating or better, or under the supervision of a sub-foreman; or must be inspected and approved by such a person before being used. This person is then responsible for the safety of the scaffold.

2. No changes may be made to these scaffolds except with the approval and under the supervision of the person responsible for their erection, or someone of higher rating.

3. Whenever conditions prevent the installation of regular handrails it may be necessary for workmen to wear life belts, under certain circumstances.

4. If erected on soft or uneven surface, scaffold feet must be properly blocked for level and ample bearing.

5. Where stability is questionable due to height, or considerable blocking of feet, the erecting supervisor is to use ¾-inch manila rope guys.

6. The person, place, and time of use of a scaffold must be registered.

Accredited Petroleum Courses Listed by Engineers' Council

"Accredited Undergraduate Engineering Curricula" arranged both by institutions and curricula has just been published by the Engineers' Council for Professional Development as a preprint from the eighth annual report of the Council. The accrediting of college engineering curricula is the principal function of the Committee on Engineering Schools of which A. A. Potter, Purdue University, is chairman.

The following institutions are listed as having accredited petroleum engineering curricula: University of California, Colorado School of Mines, Louisiana State University, University of Minnesota, New Mexico School of Mines, University of Oklahoma, Pennsylvania State College, University of Pittsburgh, University of Southern California, Stanford University, University of Texas, A. & M. College of Texas (4 & 5 year courses), and University of Tulsa.

Accredited curricula in petroleum production are offered by the University of Illinois, University of Kentucky, Missouri School of Mines, Ohio State University, Oklahoma A. & M. College, and West Virginia University. Some of the institutions listed in the first group also offer accredited curricula in production.

Supplement for Fire Manual

Publication of supplement to the American Petroleum Institute's Fire Manual, covering safe practices for pressure storage at refineries, was approved in committee at the annual meeting of the institute in Chicago, Nov. 11-15. Availability of the new supplement will be announced at a later date.

The committee also discussed adequate fire escapes and exits in refineries. Preparation of an illustrated summary of various methods now in use in refineries was suggested and the job of compilation of typical methods was taken by Standard of California. Copies will be circulated to members of the committee for further study.

A preliminary outline of points to be considered relative to safety in solvent extraction plants was presented by C. D. Norris, The Texas Co., for study by the committee. Further action will be taken at later meetings of the committee.

Chemical Expo and Conference

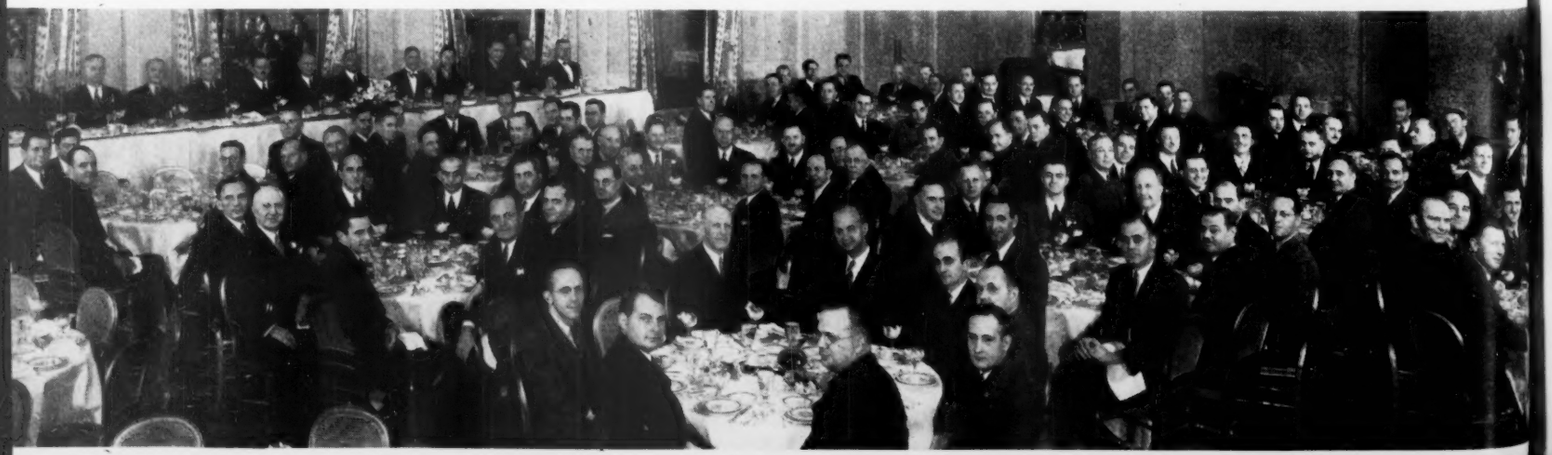
The National Chemical Exposition and Industrial Chemical Conference will be held in Chicago Dec. 11-15 under the auspices of the Chicago section of the American Chemical Society. Among widely known personalities in the petroleum chemical world who will address the conference will be Dr. Gustav Egloff, Universal Oil Products Co., Dr. Per K. Frolich, Standard Oil Development Co., and Bruce K. Brown, Standard Oil Co. (Ind.). Walter G. Whitman, head of the department of chemical engineering, Massachusetts Institute of Technology, will speak on "New Developments in Synthetic Chemicals and Materials for Fuels and Lubricants". Dr. Frolich will speak on synthetic rubber developments following Dr. Whitman during the technical session, Thursday forenoon, Dec. 12, at which Mr. Brown will preside.

An educational and scientific exhibit, which will dramatize the progress of the chemical industry, will be a highlight of the exposition. The exposition will occupy approximately 32,000 square feet in the Exposition Hall of the Stevens hotel. The exhibits will stress the extraordinary properties of materials and uses of equipment. The conference will be in the nature of a symposium on "Newer Developments in Chemistry and Chemical Engineering."

"Si" Fluor, vice president of Fluor Corp., recently left Los Angeles for a two-month trip that will include stops at the company's branch offices in New York and Kansas City.

Institute of Petroleum Annual Dinner

The sixth annual meeting of the American section of the Institute of Petroleum was held during the recent annual meeting of the American Petroleum Institute in Chicago. T. A. Boyd, well-known General Motors research engineer, sixth from the left at the speakers' table, spoke on and illustrated the mechanical devices developed during the past 200 years which are used on the present-day automobile, Gustav Egloff, director of research, Universal Oil Products Co., at Boyd's left, was master of ceremonies. Graham Edgar, director of research, Ethyl Gasoline Corp., at Egloff's left, was speaker at last year's meeting. J. R. MacGregor, well-known automotive engineer, Standard Oil Co. of California, at Boyd's right, explained slow-motion pictures of combustion in an engine cylinder



Summarize D-2 Projects On Fuel and Lubricants

In a review of the major A.S.T.M. research activities in the October Bulletin of the society the following research on methods of testing sums up the current projects of Committee D-2 on Petroleum Products and Lubricants.

Melting Point of Grease—Study of the pressure-flow relationship of greases, including the consistency of very soft greases, development of laboratory method indicative of point at which gear lubricants might channel in service, and improvement in grease worker for penetration method. Method of test for dropping point, D 566, issued this year; current report also includes data comparing new method and proposed method published as information in 1937 (see 1940 "A.S.T.M. Standards on Petroleum"; also *Proc.*, Vol. 40).

Gum in Gasoline—Investigative study of determining gum in gasoline by various methods and behavior of fuels in service; also the gum stability of gasoline. For discussion of studies of various bomb tests and the copper dish method, see *Proc.*, Vol. 34, Part I. Procedure for gum content of gasoline (D381-36) (see 1940 "A.S.T.M. Standards on Petroleum"; also 1939 Book of Standards, Part III). Results reported in 1939 of a comprehensive series of tests extending over a 5-yr. period, resulting in a method of test for gum stability of gasoline (using bomb test) (D 525-40 T) (1940 "A.S.T.M. Standards on Petroleum)".

Kinematic Viscosity Tests—Study of methods for determining kinematic viscosity of any petroleum product or lubricant which is a true viscous liquid at the temperature of the test. Methods using the suspended level and modified Ostwald instruments, and a method for conversion of kinematic viscosity to Saybolt Universal viscosity issued (D 445 and D 446). Method of calculating viscosity index (D 567-40 T) issued as tentative (see 1940 "A.S.T.M. Standards on Petroleum"). Extensive viscosity-index and viscosity-conversion tables issued, separate reprint. See also separate pamphlet on "Evaluation of Petroleum Products."

Neutralization Number of Petroleum Products and Lubricants—Cooperative study of revised methods for determination of acidity of oils. Draft of proposed revised method published as information together with data obtained by the use of the proposed method on used oils which do not emulsify badly or color alcohol excessively; also comparative data by the proposed and present methods (D 188-27 T) on two new oils (1940 "A.S.T.M. Standards on Petroleum").

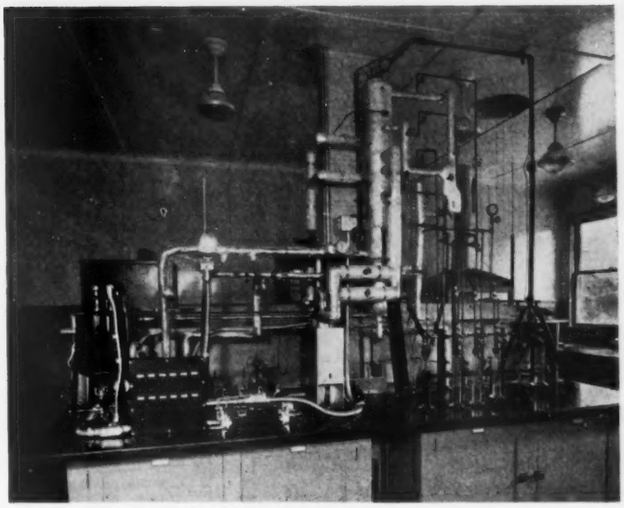
Carbon Residue Test—A comparison of six oils by the Conradson carbon residue test (D 189) and the Ramsbottom method of the Institute of Petroleum of Great Britain. Results of tests tabulated and Ramsbottom method issued as tentative (D 524) in 1939, see *Proc.*, Vol. 39. Method was revised in 1940 by substituting a metal coking bulb for the glass bulb; supporting data given (1940 "A.S.T.M. Standards on Petroleum").

Classification of Transmission Lubricants and Automotive Greases.—An attempt is being made to determine the relationship between viscosity of transmission lubricants under pressure and gear shifting in cold weather; also classification of automotive greases based upon consistency and viscosity of mineral oil content. Proposed classification recently issued by Lubricating Grease Institute.

Tetraethyl Lead in Gasoline—Development of a method of test. Work under way for 2 yr. resulted in 1939 in a standardized test method (D 526) which is the most accurate of any of those used for extracting lead from gasoline (*Proc.*, Vol. 39, p. 409; also 1940, "A.S.T.M. Standards on Petroleum").

Acid Heat of Gasoline.—Results reported of co-operative tests of six laboratories on three samples of gasoline obtained by the use of the proposed method of test for acid heat of gasoline (*Proc.*, Vol. 38, Part I). Test method adopted, see 1940 "A.S.T.M. Standards on Petroleum."

To Better Serve You



FILTROL engineers designed and constructed the continuous vacuum Filtrol Fractionation and Contacting unit pictured above, in which actual plant operations can be duplicated.

The tower, 52 inches tall by 4 inches inside diameter, is fed by a transfer line electrically heated which permits a maximum tower inlet temperature of 700 degrees Fahrenheit. Suitable controls are installed to maintain desired tower temperature and cut specifications.

In this unit, a Super Filtrol oil slurry can be continuously charged at the rate of one gallon per hour, producing one overhead cut, three side streams and a bottom fraction.

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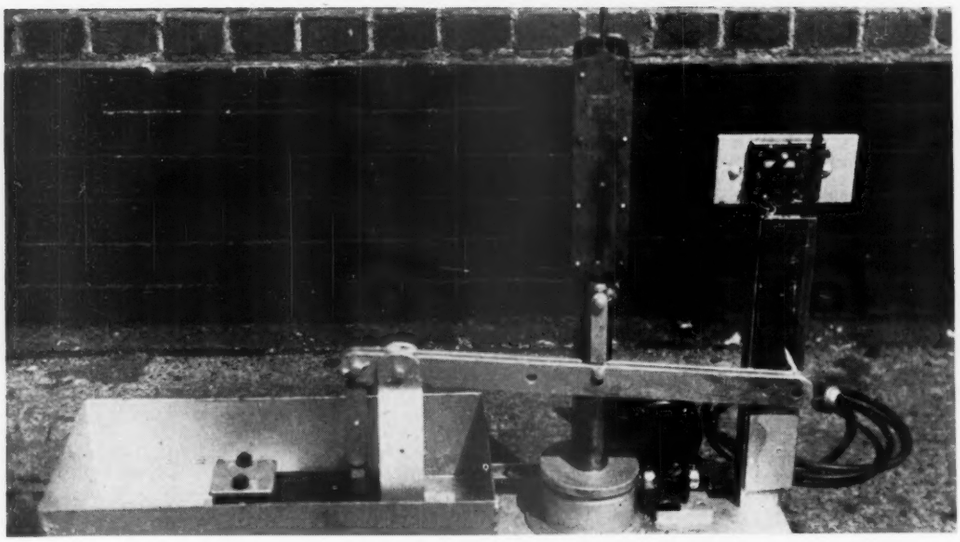

The asphalt beam testing apparatus is designed to test pavement samples in flexure. Results are closely correlated with service records of pavements. Samples are flexed while immersed in an ice salt bath and measurements of pressure and deflection are made during the period of test

841
268

Addition Agents in Asphalt Improve Road Construction

RECENT developments in the use of wetting agents to increase the strength of the bond between rock and asphalt in bituminous pavements permits their construction under adverse moisture conditions for which untreated bitumens would be unsuited, it was brought out by E. W. Klinger, A. Holmes, and R. F. Phillips, Standard Oil Development Co., during recent Petroleum Division sessions of the American Chemical Society in Detroit. Another recent development is bituminous soil stabilization.

Asphaltic road surfacings consist of mineral matter cemented together with a bituminous binder, it was pointed out, and the success of such structures depends upon the permanence of the bond between the rock and asphalt, provided the aggregate has adequate strength. The strength of the bond between the base (aggregate) and adhesive (bitumen) is dependent upon their surface and interfacial relationships, unless the adhesive is applied in a film of such thickness that its cohesional properties become the determining influence.

There are a number of destructive forces among which water is one of the most important. Mineral aggregates vary widely in their preference to wetting by asphalt and water but, unfortunately, the most durable stone is preferentially wetted by water.

Considerable thought has been devoted to the theory of the wetting of mineral aggregates by water and asphalt, the authors said. Although the surface tensions of liquids can generally be evaluated, the direct measurement of the surface tensions of solids and the interfacial tensions existing between liquids and solids has offered too much difficulty for direct measurement. These studies, however led to the conclusion that wetting or the spreading of a liquid over a solid and its subsequent adhesivity is best expressed in terms of the various surface energy changes involved.

In view of the fact that, broadly speaking, adhesivity of an asphalt improves with increase in basicity of the aggregates, provided the basic material is practically insoluble in water, attempts have been made to treat the acidic stones with basic materials such as lime or even traces of alkali. The most promising attack, however, has been in the alteration of the stone surface through adsorption of heavy metal ions such as lead, iron, aluminum, etc. by treating the aggregate with dilute water solutions of their water soluble salts.

Bitumen Additives Practical

The addition of various compounds to bitumen also has been found to be practical. These treating agents, of course, behave differently toward different rocks and it is advisable to test each type of stone separately. The materials which can be added to bitumen for improving their adhesivity vary widely in character from the organic acids for the typically basic stones to the organic bases for the typically acidic aggregates with the heavy metal salts, high molecular weight waxes, resins, and other organic materials showing greater or less effectiveness in many specific instances.

Although the final criterion of the practical effectiveness of improving the adhesivity of bitumens to aggregates is the behavior on the road, rather long periods of time are required for such tests. In order to produce accelerated results, a circular track has been employed for evaluating the adhesivity of asphalts in paving mixtures. Briefly, the circular track tests consist in passing loaded rubber-tired wheels over a compacted paving mixture submerged under water, until disintegration occurs. By treating asphalts with various agents, it has been possible to increase the life of paving mixtures in the circular track test six-fold as compared with untreated asphalt.

The authors pointed out that in spite of conditions of excessive moisture a large mileage of bituminous roads already in existence is evidence of their general satisfaction. The effectiveness of the treated asphalts was demonstrated recently in the construction of a pavement with water-drenched crushed quartz gravel to which was added an asphalt binder containing a wetting agent. This pavement was laid successfully in the rain, which would not have been possible with untreated bituminous material. A great practical benefit, therefore, was said to be the fact

Emulsified Asphalt Specifications

The first "Specifications for Emulsified Asphalts" to be adopted by The Asphalt Institute have just been issued as Construction Series No. 53. These cover six types of rapid, medium and slow setting asphalts as shown in the accompanying tabulation.

The rapid setting asphalt is for penetration and surface treatment, and three medium setting asphalts of low, medium, and high consistencies are for road and plant mixes, and patching, respectively, all with coarse aggregate. Two slow setting asphalts are included for fine aggregate mixes, one being of low penetration. Test methods are all A.S.T.M. standards. Copies of Construction Series No. 53 are available without charge from The Asphalt Institute, 801 Second Ave., New York.

Specifications for Emulsified Asphalts

(Adopted September 11, 1940)

Specification Designation	Rapid Setting	Medium Setting			Slow Setting	
	RS-1	MS-1	MS-2	MS-3	SS-1	SS-2
Tests on Emulsion						
Viscosity, Furol @ 77°F., sec.	20-100	20-100	100+	.....	20-100	20-100
Residue by Distillation.....	55+	55+	60+	65+	55+	55+
Settlement, 5 days	—3	—5	—5	....	—3	—3
Demulsibility						
(a) 35 c.c. N/50 $CaCl_2$	60+	....	....	....	....	....
(b) 50 c.c. N/10 $CaCl_2$	....	—30	—30	....	1.0—	1.0—
Sieve Test—Ret. on 20 Mesh..	—0.10	—0.10	—0.10	—0.10	—0.10	—0.10
Miscibility, 2 hrs.	....	Pass	Pass	Pass	Pass	Pass
Stone Coating (3 min.).....	....	Pass	Pass	Pass	....	....
Cement Mixing, % Max.	....	....	....	....	2.0—	2.0—
Tests on Residue						
Penetration @ 77°F., 100g., 5 sec.	100-200	100-200	100-200	100-200	100-200	40-90
Soluble in CS_2 (Pet. Asphalt) %	97.5+	97.5+	97.5+	97.5+	97.5+	97.5+
Soluble in CS_2 (Nat. Asphalt) %	95.0+	95.0+	95.0+	95.0+	95.0+	95.0+
Ash	—2.0	—2.0	—2.0	—2.0	—2.0	—2.0
Ductility @ 77°F., cm.	40+	40+	40+	40+	40+	40+

that the use of wetting agents avoids the necessity of drying the mineral aggregate and the restriction of carrying out road construction only under dry weather conditions.

Although the use of bituminous materials for waterproofing earths and subsoils is rather old, it appears to have been neglected for a good many years and only now appears to be coming into use again, it was reported. It has been found that since soil stabilization generally can be accomplished at a lower cost per unit of thickness than the high types of road surfacings, soil stabilization can frequently be combined with the more expensive wearing courses so as to give road constructions at less cost for the same overall strength than when using the more expensive construction alone. In fact, the introduction of soil stabilization into road construction with its lessening of the overall construction cost has permitted the construction of many miles of such roads which for economic reasons could not otherwise have been improved.

The steps followed in stabilization are loosening the soil to the proper depth, adjusting the moisture content, then adding the asphaltic product and mixing. The treated soil is then compacted and given an asphalt surface treatment if desired.

Find Normal Oxidation of Asphalt

The oxidation of asphalt at service temperatures was reported by R. R. Thurston and E. C. Knowles, The Texas Co., particularly in relation to oxidation to be expected in highway and roofing surfaces under the influence of the sun's heat. It was pointed out that the less asphalt is exposed, the better the service to be expected. Protective coatings of gravel or stone chips were said to greatly prolong the life of these surfaces.

The experimental work was done at a temperature of 175°F. which was said to be comparable with temperatures experienced in service. It was found that oxidation at this temperature proceeds four times faster in the presence of ultraviolet light than in its absence and a sun lamp was, therefore employed in the tests since normal service conditions of paving and roofing involve exposure to the sun.

Two methods were used for test. In one method the material was exposed in a thin film on aluminum trays placed in sealed steel containers, covered with Corex D glass, which transmits a high percentage of ultraviolet radiation. The other method was carried out in sealed Pyrex flasks, and the material was dispersed uniformly on the surface of a purified sand. In both cases, the volume of oxygen consumed was determined by the drop in pressure, followed by a determination of carbon dioxide and water. All samples were weighed to obtain any increase due to actual absorption.

It was determined that all major fractions of an asphalt actually absorb oxygen under these conditions, approximately half of the oxygen used being absorbed, one-third acting as a dehydrogenating agent by forming water, and the balance going to carbon dioxide.

New Patents

Compiled by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh Street, NW, Washington, D. C., from whom copies may be obtained at rate of 25c each. State number of patent and name of inventor when ordering.

September 24, 1940

Oxidation of hydrocarbons—W. H. King, New Orleans, and C. Q. Sheely, State College, Miss. Filed April 2, 1938. Nos. 2,215,472, 2,215,473, and 2,215,474.

Process for controlling vapor phase hydrocarbon reactions—C. S. Fazel, Petersburg, Va., assignor to Solvay Process Co. Filed June 8, 1938. No. 2,215,498.

Production of liquid products from pressure extracts of solid carbonaceous material—Heinrich Buetefisch, Karl Winkler, Hermann Kaufmann, and Rudolf Bemmann, Germany, assignors to Standard-I. G. Co. Filed Nov. 13, 1937. No. 2,215,869.

Hydrogenation of liquid olefin polymers—Paul Herold, Walter Kroenig, Hermann Kaufmann, and Ernst Donath, Germany, assignor to Standard-I. G. Co. Filed June 9, 1938. No. 2,215,876.

Selective solvent extraction of petroleum—J. Q. Cope and W. H. Clausen, assignors to Standard Oil Co. (Cal.) Filed Aug. 17, 1937. No. 2,215,915.

Process of selectively refining petroleum oils—A. W. Hixson, Leonia, N. J., and Ralph Miller, New York, assignors to Chemical Foundation. Filed Dec. 17, 1936. No. 2,216,009.

Lubricating composition—G. M. Maverick, assignor to Standard Oil Development Co. Filed July 20, 1935. No. 2,215,590.

Lubricating oil—J. F. Nelson, assignor to Standard Oil Development Co. Filed May 20, 1939. No. 2,215,591.

Plastic composition—P. J. Gaylor and W. J. Sparks, assignors to Standard Oil Development Co. Filed May 20, 1937. No. 2,215,601.

Regeneration of spent catalysts—Otto Roelen and Franz Hanisch, Germany, assignors to Hydrocarbon Synthesis Corp., Linden, N. J. Filed Sept. 17, 1938. No. 2,215,885.

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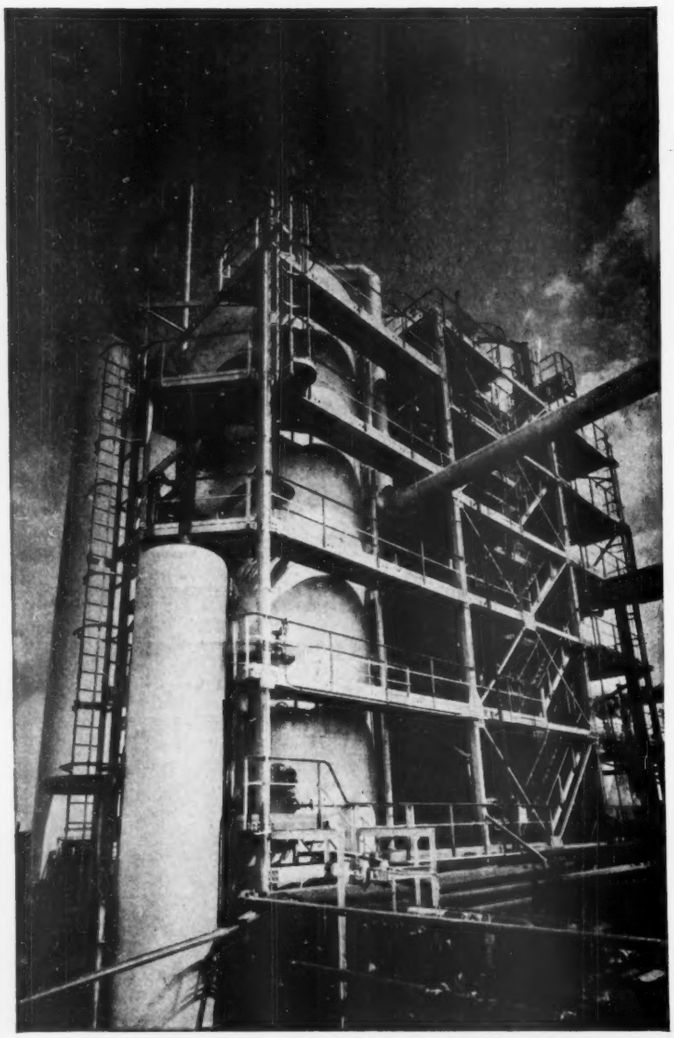

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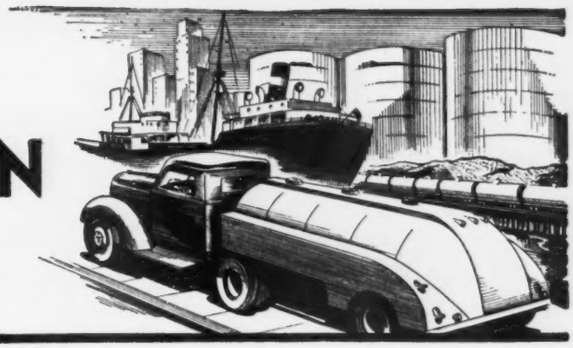


Gulf Refiners To Seek Relief From Tanker Market Conditions

HOUSTON, Nov. 25. — Gulf Coast Refiners Assn. is meeting this week to discuss present tanker market conditions that are said to be "stifling" market demand on the East Coast for Gulf coast petroleum products, and the proposed Middle West-to east "water-competitive" rail rates on crude and fuel that threaten further inroads into their markets.

To several of the association's 10 independent refiner members, the tanker situation is of prime consideration and the proposed rail rates from the Middle West of secondary importance.

Most refiners who depend on the open tanker market for bottoms report they are not at present able to obtain tankers for movement of their products. "The tanker situation must first be cleared up," they say, "before we begin any fight on the proposed rates."

Several refiners have expressed belief the present tight situation in the tanker market is due partially to the recent acquisition by the federal government of privately-owned tankers. Additional acquisitions would further complicate the situation and possibly result in still higher rates, it is believed.

Seek More Tankers

Action will be considered at the meeting, it is said, to see if the government would release to the open market any tankers not absolutely necessary in governmental and national defense plans.

Governmental regulation of tanker transportation is a difficult pill to prescribe to an industry threatened by federal control, according to several Gulf Coast independents, but "something must be done to insure a uniform charge for transporting petroleum from Gulf to East Coast.

Many Gulf Coast indpendents are said to favor a uniform tanker rate that would preclude wildly fluctuating transportation costs in coastwise traffic, with such rate structure to be modeled upon those prescribed for rail shipments, with certain differentials between rates on "dirty and clean bottoms."

Possibility of obtaining for coastwise traffic any foreign tankers now available for this service will also be discussed at the meeting, it is said.

Gulf Coast, and to some extent Mid-Continent refiners have indicated the Middle West to East Coast rates may be an effort on part of Mid-Western refiners to dispose of surplus fuel oil stocks by widening their marketing areas.

Rates Present Threats

While the rates proposed are said to present a definite threat to markets now suppplied by Gulf Coast refiners, it is said that a change in supply source might not be favored by East Coast users. Gulf Coast refiners say their heating oil is low pour test and that if East Coast markets are supplied from Illinois, users would be forced to make adjustments in burners to use the heavier and higher pour test Illinois products.

But just to make sure that no loopholes are left open through which more of their markets might slip, Gulf Coast independents will also discuss advisability of petitioning the Interstate Commerce Commission for suspension and investigation of the proposed rates.

"We've lost our export markets and now we can't afford to risk loss of our coastwise markets," one refiner said in discussing the tanker and rail rate situation.

Traffic and sales department officials in the Mid-Continent area this week indicated that while the proposed rates might relieve midwestern refiners of some excessive stocks, Mid-Continent refiners stand little chance of benefiting by increased shipments into the Mid-Western trade territory.

Tanker Rates Reverse Trend; Drop From 3 to 9c per Bbl.

N. P. N. News Bureau

NEW YORK, Nov. 25.—Reversing the rapid climb of the past two months, both "clean" and "dirty" coastwise tanker rates about-faced late last week, dropping from 3 to 9c below previous fixtures.

Although coastwise tanker rates have advanced over 200% in the past 2 months, the first break in the rapid climb upward was viewed as somewhat of a "precedent" by some boat men. Feeling was strong among observers that rates would hold at, or near, present levels. Several boat men said today, however, that even a still further reduction in rates was "not an impossibility." What owners would ask was a question, however, "because no boats are being offered," one added.

Fact that the U. S. Navy has decided to allow Standard Oil Co. of New Jersey and Keystone Tankship Corp. to use 4 of the national defense-type tankers "until they are in urgent need" has made more tonnage available for the immediate future. This has relieved, to some extent, the tight situation this winter as it was viewed by some owners.

Two "clean" boats were fixed last week for Gulf-North Hatteras, the first at 54c, second at 50c, for gasoline, with differentials shrinking from 4c to 3c per bbl. On the last fixture, charterer paid 50c for gasoline, 53c for kerosine, 56c for No. 2 fuel. This compares with previous fixtures at 57c, 61c and 65c for the three products, respectively.

Fixture of a "dirty" boat at 42c for 30 gravity or lighter crude, 48c for 10-19.9 gravity fuel, was made this morning, according to reports, and represents reduction of 3c per bbl. basis of light crude.

4 'Defense' Tankers To Stay In Gulf Run

NEW YORK, Nov. 25. — Four defense-type tankers, previously slated to go into naval service by Dec. 1, will be continued in operation by private companies "until they are in urgent need," it was learned here today. Some observers believe the tankers were temporarily released by the Navy because of the shortage of bottoms available for open charter in the Gulf-N. Hatteras trade.

The tankers affected by the action are the "Seakay", owned by Keystone Tankship Corp., and the "Esso Annapolis", "Esso New Orleans" and "Esso Raleigh", owned by Standard Oil Co. of New Jersey. They are a part of the fleet of 12 defense-features tankers built by agreement between the Maritime Commission and Standard Oil Co. of New Jersey.

Under this agreement, the Jersey Co. paid the cost of building commercial tankers of the type required, while the Government met the expense of equipping them for high speed and with other national defense features, reserving the right to purchase the tankers as soon as owner had title. Navy has already taken over 7 of these tankers, and intended to acquire the remaining 4 by Dec. 1. One of the tankers is still in the shipyard.

New Texas Rail Rates Effective Dec. 8

DALLAS, Nov. 25. — New so-called "truck-competitive" rail rates on petroleum shipped between points in Texas, and between Texas points and Oklahoma and portions of Louisiana and Arkansas are scheduled to become effective Dec. 8.

The new rates will enable Texas refiners to reach their markets in Oklahoma and parts of Louisiana and Arkansas with a saving of from 0.1 to 0.5c a gal. on gasoline under present rates. The Texas scale is slightly higher than the "truck-competitive" rail rates effective within Oklahoma and Kansas and between the two states and parts of Arkansas and Missouri.

Shipping Areas of Nebraska Outlined In Rate Proposal

TULSA, Nov. 23.—The 8-state marketing area into which future Nebraska refiners may deliver their products is bounded in a rail rate proposal, W.T.L. X-D-37-506, now being considered. It is said to bring the Nebraska area into "competitive alignment" with near-by refining and marketing centers.

There are no refineries operating in Nebraska, but a 200-bbl. plant is to be completed soon at Salem, by Nebraska Producing & Refining Co. Several are contemplated at Falls City.

The proposal would use Falls City and Salem, Neb., as origin points. New setup includes 3 sets of rates to some destinations.

To destinations in Minnesota, Iowa, Wisconsin, Illinois, North and South Dakota, the proposal would establish rates on refined and low grade oils comparable with those now in effect from Kansas City. Rates to Missouri would be based on short-line distances and the 17,000, part 4-A scale for light products; with 20% lower rates for low grade oils.

Intrastate rates would be based on the so-called Omaha scale, plus 10% on refined oils, a reduction of 4 to 10.5c a cwt. The intrastate truck schedule would be as much as 1.089c a gal. on gasoline below that scale.

To South Dakota a new truck scale of rates 4 to 10c a cwt. (0.026 to 0.066c a gal. on gasoline) below the commodity rates is proposed.

New commodity rates for light and heavy products are suggested for Missouri, with a truck scale of rates 4 to 7.5c a cwt. (0.264 to 0.495c a gal. on gasoline) below the commodity scale in representative cases.

Commodity rates to Iowa are proposed, with truck scale of rates as much as 10c a cwt. (0.066c a gal. on gasoline) below the commodity rates.

No material changes would be made on rates from Falls City to North Dakota, Wisconsin and Minnesota. To the few destinations in Kansas covered in the proposal, new commodity rates would be established with new truck rates from 3 to 5c a cwt. (0.0198 to 0.033c a gal. on gasoline) below the new commodity rates.

Michigan Oil Institute Aims To Furnish Data on Industry

CLEVELAND, Nov. 25.—The new Oil Institute of Michigan has been organized to give "dependable information regarding the state of the oil business in Michigan," states the first issue of the Institute's bulletin, "The Michi-Gander," which outlines purposes of the new organization.

The Institute, of which L. V. Nicholas is president, is made up of, and was organized for, the mutual benefit of producers and refiners of Michigan crude and independent distributors of Michigan-made products, as well as for the mutual benefit of consumers of Michigan-made products.

"Michigan," the bulletin states, "is a proven crude oil producing state and none of us can afford to stand idly by while ignorance, inertia, greed or manipulation combine to wastefully exhaust and exploit this great natural background that can and should contribute so materially to the wealth and prosperity of the State of Michigan over the many years to come."

"New wealth produced in Michigan should very largely stay in Michigan and do the job of providing new employment, building new homes and supporting Michigan industry generally," the bulletin adds.

It points out that Michigan refiners built their plants and developed distribution facilities in the state "in the full confidence that they would be treated fairly and that there would be no artificial and costly interference with their continuing supply of Michigan crude oil.

"It is ridiculous to curtail in any way the production of Michigan crude oil or to discourage the search for new crude oil fields in Michigan as long as the total daily supply of Michigan crude oil is materially less than the demand of the consumers of the State of Michigan for the products of that crude oil," the bulletin states.

"In other words," it adds, "as long as the daily demand for petroleum products of the State of Michigan translated into barrels of crude oil, is considerably more than twice as great as the supply of crude oil produced in the state of Michigan, it is not only unfair, but it is tragically silly and dangerous to restrict the production of Michigan crude oil and work costly hardship on the producers and refiners of Michigan as well as reduce the production of new wealth."

Venezuela Crude Deliveries To Start About Jan. 1

TORONTO, Nov. 23.—First deliveries of Venezuela crude to the Imperial Oil refinery at Sarnia, Ontario, will be made about Jan. 1, it is reported. The refinery will use 10,000 bbls. daily of this crude. Connections in the various pipelines and necessary replacements through which the oil will pass from Marcus Hook, Pa. to Sarnia, are now proceeding.

I C C Calendar On Oil Trucking

HEARINGS

Jesse O. Willett, doing business as J. O. Willett, West Monroe, La., (MC 704, sub. 1), Dec. 5, 1940 Little Rock, on application to extend common carrier operations in the transportation of oil field equipment and supplies between points located in Arkansas, Louisiana, Mississippi, Alabama, Georgia and Florida, over irregular routes.

Zach Brooks, El Dorado, Arkansas, (MC 53425, sub. 3), Dec. 6, 1940, Little Rock, on application for extension of operations as a common carrier of oil field equipment and supplies, in Alabama, Arkansas, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Mississippi, Tennessee, and Texas, over irregular routes.

DECISIONS

Petroleum Transport Co. (CM-183, sub. 2 and 3) for extension of common carrier operations in Kentucky and Delaware. Petitions for leave to intervene filed by Ashland Oil and Refining Co., Waverly Oil Works Co., Elk Refining Co., Gulf Oil Corp., Cities Service Oil Co., Southern Lacquer Corp., Richfield Oil Corp., Standard Oil Co. of New Jersey and Standard Oil, Pa., denied.

October Oil Trucking

WASHINGTON, Nov. 23. — Tonnage hauled by truck transporters of petroleum products during October was 11.7% ahead of October 1939, American Trucking Associations report. Transportation of petroleum products accounted for slightly more than 14% of the total October truck tonnage, despite a 1.1% decrease from September.

Cowden Re-elected Head of Consumers Co-op

NORTH KANSAS CITY, Mo., Nov. 23. — Consumers Cooperative Assn., integrated oil co-op meeting in annual session here, re-elected Howard A. Cowden of North Kansas City as president for another year.

T. H. DeWitt of Green City, Mo., was re-elected vice-president and Clifford Miller of Waterloo, Neb., secretary-treasurer.

The co-op reported to its membership the completion and operation within the past year of a 3000-bbl. refinery at Phillipsburg and a 92-mile pipeline to supply the plant with oil. The co-operative also owns part interest in producing properties in Rooks County, Kans.

Oil Residuum Rates Authorized by ICC

N. P. N. News Bureau

WASHINGTON, Nov. 23.— Interstate Commerce Commission today authorized rail rates on petroleum oil residuum between various southwest points, limited to residuum having an API gravity of not more than 38° or less than 15°, but refused to apply such restrictions to the existing residuum rate between Mt. Pleasant, Tex., and New Orleans, La.

Authorized rate is 7c per 100 lbs. on petroleum residuum and applies from Cleveland, Cushing, Yale, and other Oklahoma points to Arkansas City, Kansas. ICC refused to disturb the Mt. Pleasant—New Orleans rate on the ground it would mean a 90% increase on the residuum ranging from 6° to 10° which is shipped from Talco Asphalt and Refining Co. at Mt. Pleasant, to Flintkote Co., New Orleans prepared roofing manufacturer.

Oil refineries appearing at the hearing in favor of restricting the existing Mt. Pleasant-New Orleans rate to residuum of more than 15° included Pan American Petroleum Corp., Standard Oil Co. of Louisiana, Shell Oil Co., Inc., and The Texas Co.

Wisconsin Refinery To be Ready Dec. 1

N. P. N. News Bureau

CHICAGO, Nov. 22.—The Wisconsin Oil Refining Company expects to have its new refinery—the first in Wisconsin—at Sheboygan ready for operation Dec. 1, according to an announcement by Dewey E. Foster, president.

This new plant will have a capacity of 5000 bbls. daily, and will make gasoline, kerosine, distillates, burning oils, and fuel oils. The refinery has completed arrangements to obtain Illinois crude, which will be shipped in by rail on a 13c per hundredweight rate from southern Illinois.

About Jan. 1, the company plans to start construction of a Dubbs cracking unit and a poly plant. The cracker, which should be completed in approximately 8 months, will have a daily capacity of 2500 bbls., it was disclosed today.

Wisconsin Oil Refining Co. products will be marketed in northern and eastern Wisconsin, and upper Michigan. Shipments to the north and west will be made by rail, and local deliveries will be made by trucks, Mr. Foster said.

Motorists Make Pennsylvania Turnpike An Amateur Speed-Testing Ground

TAKING full advantage of America's only "Dream Highway", motorists are rapidly turning the new 160-mile Pennsylvania Turnpike between Harrisburg and Pittsburgh into an amateur testing ground for their cars.

With neither traffic lights, side roads, nor actual speed limits, motorists driving over this super highway become curious and "wonder how fast my car will go". Reports indicate that this curiosity on the part of America's motorists may herald a new chapter in motor car and highway history.

For, it is said, motorists will demand more super highways, similar to the Pennsylvania Turnpike, and it is also said that car manufacturers will be forced to give additional consideration to sustained high speeds when designing all types of cars. High speeds, when speaking of travel on the new Turnpike, should be interpreted as 80, 90, 100 or more miles an hour.

While these high speeds are possible, and while many motorists are "opening 'er up", several cars are being hauled off the highway daily, because of mechanical troubles, ranging from burned-out connecting rod bearings to cracked blocks.

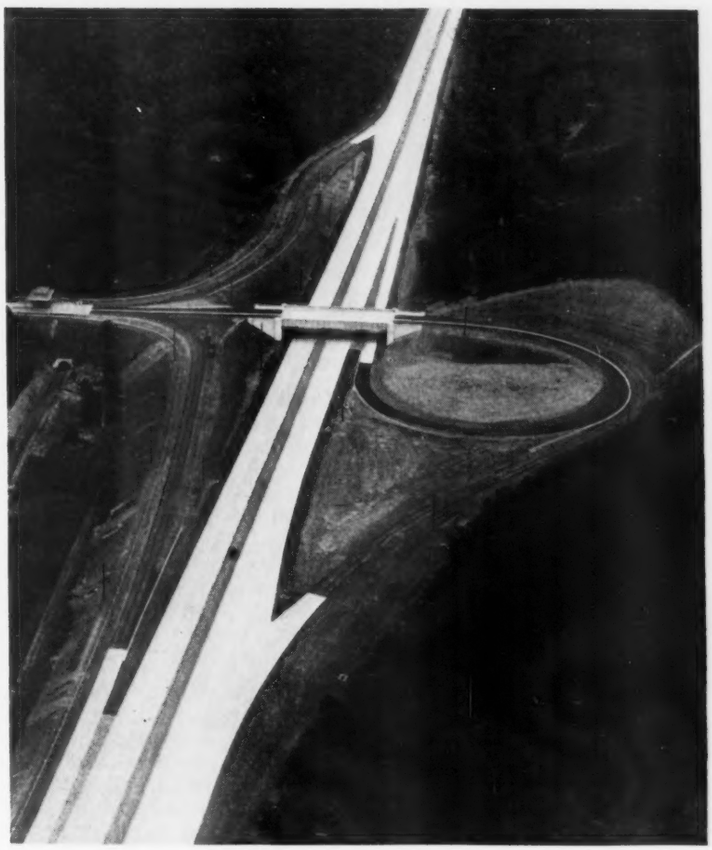
Inquiry as to what make cars suffered from these high speed "attacks" revealed names in both the low and high-price classes, proving, if anything, that the "Hell-bent Barney Oldfield" desire for speed is universal among motorists.

But just what effect do these high speeds, made possible by this new $70,000,000 highway, have upon the Turnpike's service stations?

Perhaps the most significant answer—aside from the fact that car breakdowns have shown a definite need for mechanics at the service stations—is the report that the present number of stations (10) are thought inadequate for the Turnpike's traffic, and that there is some discussion of either expanding present facilities, or building new service stations—or doing both.

Built along early Pennsylvania architectural lines, the 10 de luxe service stations are operated by Esso Marketers (Standard Oil Co. of New Jersey).

The stations, open 24 hours a day, are located at staggered distances along the highway and are as modern as the highway itself. These stations are 1-story buildings with restaurant counter service. At the Midway station, located about 90 miles from Harrisburg and 70 miles from Pittsburgh, is a 2-story building with restaurant seating 120 persons, lounge and other facilities.



This aerial view of the Fort Littleton interchange shows 4 of the Turnpike's decelerating highways. A third strip of concrete extends 1200 feet for motorists entering and leaving the highway. At extreme left is a toll house and in center is a typical over-pass. Fort Littleton is 1 of 11 points to enter or leave the highway

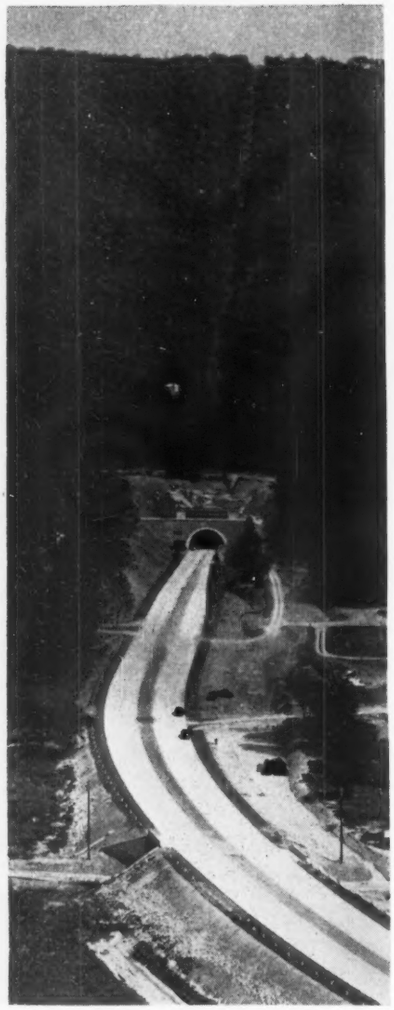
All the station restaurants are under management of Howard Johnson, a well-known eastern chain restaurant operator, whose career was recently recorded in a popular magazine under the title "Man With an Idea". No liquor of any kind is served at highway restaurants.

All service stations are entered by 1200-ft. decelerating lanes from the Turnpike, enjoyed by this writer who was usually going about 70 when he decided to stop for "gas". Premium and regular gasoline are sold at all intermediate stations, but third-grade gasoline and diesel fuel may be purchased only at the Midway station.

Pump islands with both gasoline and diesel fuel are located on both sides of the Turnpike at the Midway station, where trucks can be serviced with high-speed pumps capable of delivering 25 gals. per minute. Gasoline storage at the 9 intermediate stations is 12,000 gals. and at the Midway station, 22,000 gals.

Most motorists stopping for gasoline on the Turnpike, buy more than 5 gals. at a time, attendants state. But regardless of the amount of gasoline and oil purchased, motorists driving into Turnpike stations are not "serviced to death". Windshields are cleaned if there is a need for it, but are not touched just for the sake of something to do, says one Esso manager. However, if a windshield is dirty, care is exercised to see that it is wiped clean.

After attending to motorists' immediate wants, such as gasoline, attendants look at water level in radiator—a logical procedure at all times on a road where such high speeds are maintained. If hood is locked, motorists are



Tuscarora Mountain tunnel is one of the Turnpike's 7 tunnels, and is 5326 5 feet long. In all tunnels, the latest ventilation equipment has been installed to insure adequate fresh air. Mercury vapor lights illuminate these tunnels

asked to release it. Immediately after looking at water the oil is checked and condition told to driver.

When inspecting condition of oil in this writer's car, at the Midway station, an attendant took out the oil gauge stick, wiped it off, inserted it in the crankcase and withdrew it again, in the customary way. Then he asked how long it had been since the oil was last changed, not assuming from the shade of the oil that it should be changed. The answer was about 1200 miles. So, the attendant was told to change the oil.

When the car was on the lift, another attendant who had come over to assist, noticed that one tire was smoother than the others, and asked if the spare was in better condition. As a matter of fact, the spare was a much better tire, and the driver knew it, but since his last puncture, months ago, had never replaced the smooth tire.

The spare tire was put on. This may have prevented the driver from a blowout, as he continued to travel around 70 and probably would have gone faster if his car had been later than a '35 model. In addition, it netted the service station a nominal fee of 25c for the service rendered. This type of service pleased the writer-driver, who felt that that 25c was a good safe investment, and that the Turnpike stations were looking after his interest.

When the attendant was asked what he would have done if told that the spare tire was either no better or in about the same condition as the smooth tire, he grinned, saying, "Try and sell you a new one".

WHILE a tire sale was not made in this case, tire sales at many Turnpike stations indicate an increased amount of this business, as blow-outs are not infrequent. Asked the cause for this, attendants attributed it to the sustained high speeds, which, in their opinion, create more heat than most tires, particularly the partially-worn tires, can stand. All Turnpike stations carry a complete line of tires of all sizes.

In addition to tires, all 10 stations carry a complete line of accessories, but to date, attendants have been so busy servicing cars for oil and gasoline that little or no time has been spent merchandising accessories. However, the Laurel Hill station, first service station on right-hand side of road going east, reports it has done more business than any other single station on the Turnpike, and some of this business has been in the accessory line.

While all stations are equipped to handle lubrication jobs, not much to date has been done along this line. Aside from gasoline and oil, sales have been confined largely to fan belts and radiator flushing fluids. A large assortment of all types of fan belts are stocked at every Turnpike station, as well as radiator fluid. High speeds maintained by the motorists are said to be responsible for the many sales of these 2 items.

While motorists who make service station purchases along the highway, must buy the Esso line of products, and while M. C. Blondel, Turnpike superintendent in charge of all 10 stations, realizes the unique opportunity of acquainting these motorists with Esso products, he told NPN that the stations will not employ the "barber shop" technique of merchandising.

However, selection of men to do a good job of merchandising is not being over-looked, as this writer found when he first stopped at the Midway station; for, upon entering one of the offices, it was only by insisting that he had come to interview, rather than be interviewed, that he escaped questioning as a possible employe by Mr. Blondel and R. W. Owen, Midway station manager, both of whom were ready to see "the next applicant".

Selection of proper station personnel is no small factor on the Turnpike, it was said, for, in most cases, service stations are many miles from a city. A prophecy was made that the personnel problem may become a headache when this country has more super highways, which of necessity must have service stations even further away from cities than any point on Pennsylvania's super highway.

When Turnpike motorists stop for gasoline and oil, they demand such rapid service that Esso has discovered a more advantageous location of pump islands is desirable.

At present, pump islands are lined up in front of station so that the first island motorists encounter when entering the station, is the one directly in front of the station itself, with other pump islands ahead. For some unknown reason, motorists favor the pump island directly in front of the station and will usually stop there, even when no cars are at other pump islands, and they have a choice, a Turnpike station manager said. But when a car now stops at the first pump, cars behind are blocked, thus preventing attendants from giving rapid service, and generally slowing down operations.

IF Esso constructs additional service stations on the Turnpike, or on similar roads in the future, reports indicate that pump islands probably will be placed so that motorists will have to pass all other pump islands if they still wish to stop at the pump island in front of the station. In this way, one car will not block cars behind it from being serviced. This will also speed up car servicing for gasoline and oil, particularly during peak hours, which to date have been between 11 A.M. and 1 P.M.

No valid reason was reported for this pump island preference, unless drivers believe that by stopping at the pump island in front of the station, they are closer to restrooms and restaurant, and they will be waited on faster. However, when stops are made for the restaurant, motorists must park in spaces provided for this purpose. So, nearness to restrooms and fast service are the only reasons left, station attendants say.

Aside from being of great convenience and safety to motorists, the trucking industry, it is said, has much to profit by use of the new Turnpike. However, many trucks are not using this highway, although "70 trucking companies interviewed by the Pennsylvania Turnpike Commission's traffic engineers agreed that substantial monetary savings will result from use of the Turnpike".

Dispute between trucking groups and the Commission is over fare schedules. Present truck rates for one way, range from $3 to $10. Passenger car fares are $1.50 for one way and $2.25 for round trip. No round trip rates for

trucks have been made yet, but it is reported that this is likely in near future. As the Turnpike can be entered at 9 intermediate points (11 altogether), rates are charged accordingly.

Many trucking companies operating between the mid-west and eastern seaboard, now use the comparatively level New York routes, avoiding Pennsylvania's steep grades and curves, found on both the Lincoln and William Penn highways.

E. E. Lewis, Turnpike publicity head, told this writer that the Commission had appointed a special agent to contact the trucking industry and to discuss truck fare schedules.

Turnpike advantages for truck travel, over other routes from Pittsburgh to Harrisburg, are reported as follows:

1. Safe operation at higher speeds in all kinds of weather.
2. Reduced fuel cost.
3. Reduced tire cost. (Because of lower grades and reduced braking effort.)
4. Reduced maintenance cost. (Because of lower grades and reduced curves, resulting in less strain on transmission, brakes and engine.)
5. Utilization of lower powered trucks for the same pay load and of increased pay load for present size of unit.
6. Saving of time ranging from 2 to 6 hours per trip between the 2 Pennsylvania cities.
7. Reduction of accidents with corresponding saving in insurance rates.

While no accommodations have been made to date, for passengers who wish to stay overnight along the Turnpike, special accommodations are available for truckers at the Midway Station. For 35c truck drivers can sleep in one of the 2 large dormitories, and for 15c more, may take advantage of a shower, with towels and soap "on the house". One of the dormitories is for colored drivers. Combined sleeping facilities are provided for 38. A restaurant on the main floor is provided for truckers exclusively.

Aside from being asked to use the outside lane, and from being assessed a higher rate than passenger cars, trucks are allowed all the privileges of other vehicles. However, the Turnpike Commission has a ruling that tank trucks are not allowed to pass through tunnels on this super highway.

This ruling makes it necessary, in most cases, for tank trucks—usually 5300-gal. units including trailer—to reach the Turnpike service stations via back country-type roads. While no great difficulty has been encountered to date, this writer—who purposely drove over 2 of these back roads leading off and on the Turnpike—wonders if horses will not be needed in bad weather to pull tank trucks out of possible mud holes and ditches. These "tank truck routes" are reminiscent of old tote roads in Maine's lumber country. However, when Esso signed its contract with the Commission, the oil men were aware of ruling prohibiting tank trucks from using the Turnpike's tunnels.

When approaching the Midway station, trucks are directed along an asphalt driveway which leads around the rear and to the far side of the building where a large parking space is provided. There is also a wire enclosure for bonded trucks, or any other trucks with valuable cargoes. At all station entrances and exits, there are decelerating lanes to prevent accidents when cars enter and leave the highway.

Restrooms at all Turnpike stations are equipped with the latest conveniences, including science's latest gifts to sanitation: toilet seats sterilized by ultra-violet rays, and floor buttons, operated by stepping on them. This manner of toilet flushing so delights motorists that "too much water is being used by people who treat it as a toy", a station manager commented.

WOMEN'S restrooms are said to be almost all that could be asked for at home; but no first-hand information is available as a woman was either entering or leaving every time this NPN writer thought the coast was clear.

Motorists traveling west and wishing to eat at the Midway station, must park their cars on the north side of the highway and go under the highway by a pedestrian tunnel which connects the smaller service station unit with the central station. This tunnel, costing $20,000, is heated and leads into the lobby of the Midway house. Neither cars nor pedestrians may cross the highway.

While storage space for supplies and accessories is provided at all stations, it is believed that all storage facilities will have to be enlarged, particularly at the Midway station.

Motorists who run out of gasoline along the Turnpike, will not be inconvenienced for long, as police patroling the highway are equipped for such emergencies, and the only cost to the motorist is the price of the gallon or two of gasoline.

If a car breaks down in one of the 7 tunnels, a tow truck, operated by the commission, stationed at each tunnel, will pull it out. Motorists who break down on the highway, for reasons other than running out of gasoline, will be aided by patrol cars, which will either pull or push them to the nearest of 11 points leading off the highway.

If an accident prevents the car from rolling on its own wheels, a tow truck is summoned and the car is taken to the nearest garage off the highway. No charge, to date, has been made for this service.

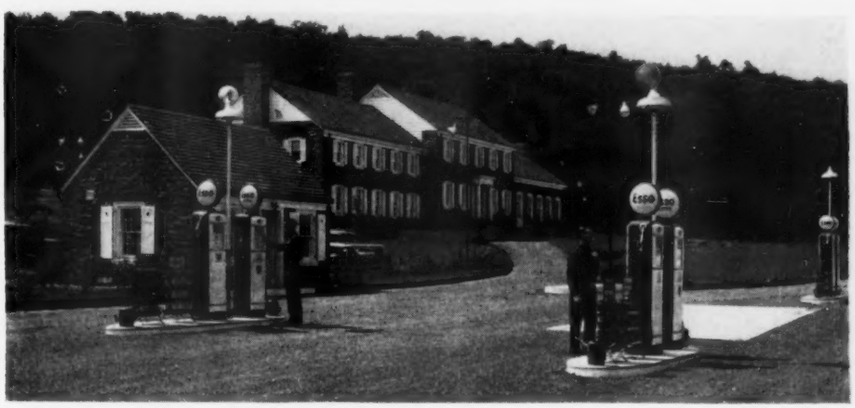
These tow trucks carry complete fire equipment, including an asbestos suit. Drivers are trained in first aid and are prepared for anything, with equipment which includes an oxygen tent and stretcher. At the time this story was written, only 1 accident, aside from breakdowns, on the Turnpike was reported, and that one was due to a blow-out. The car turned over, but passengers were not injured.

As an additional safety measure, more than 140 overpasses and underpasses have been constructed to prevent a single road from crossing the Turnpike.

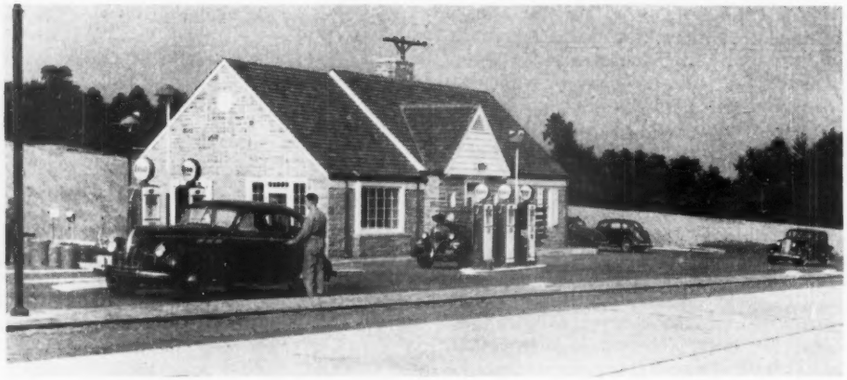
Highway signs on many Pennsylvania highways warn motorists that "Curves are beautiful but dangerous". No such sign is necessary on the Turnpike, for while there are a few beautiful curves, they are decidedly not dangerous.

Service stations on highways leading into the Turnpike and service stations on roads paralleling the Turnpike have been slightly affected by the opening of this new road.

Men at service stations on roads leading into the Turnpike, told this



Midway house and 2 service stations are on the south side of the Turnpike. Directly opposite, there is another service station similar to the one here. In the main house there is a dining room, truckers' dormitories, lounge and offices. Motorists going west, must use a tunnel to reach the Midway house



Blue Mountain station is 1 of 8 intermediate stations on the Turnpike where gasoline, oil, accessories and restaurant counter service may be obtained

writer that their gallonage had increased from 25 to 100 gals. a day. Service stations on the Lincoln and William Penn highways were not contacted by NPN, but one reliable report states that highway traffic dropped off 30% on the Lincoln highway, and this, it was said, probably means that service station business decreased proportionately.

Shortly after the Turnpike was opened, there were reports that some service stations, on roads leading into the Turnpike, were telling motorists to buy gasoline and oil before driving over the Turnpike, in order to avoid higher prices. But NPN found nothing to substantiate this report. One service station did, however, display a sign, reading: "Buy Gasoline Here for the Turnpike".

GASOLINE at all Turnpike service stations is sold at "prevailing prices", which means prices generally competitive with the entire area which the Turnpike traverses, and does not refer solely to prices at either end of the Turnpike.

Cots have been placed in the Turnpike's 9 intermediate stations, as Pennsylvania's winters are as severe as the countryside is beautiful, and it is anticipated that there will be times when attendants will "wish I could sleep here tonight".

Already, hundreds of motorists have wished they could find sleeping quarters at the Midway house, and in some cases, have entered with full expectation of signing a register. These would-be lodgers have been directed to hotels in near-by Bedford, and Bedford Springs. It is rumored that before another summer passes, a 100-room hotel or inn of early Pennsylvania architecture, will be constructed on the hill behind the Midway house.

Night driving on this Turnpike is actually as safe as day driving, for in addition to the strip separating the 2-way traffic, reflector markers outline the roadway well ahead. Sodium vapor lights at tunnel entrances, illuminate both roadway and portal buildings.

When driving through the Turnpike's tunnels after dark, at 50 miles (legal tunnel speed limit), the combined effect of speed, rushing air and mercury vapor lights, makes one think that Hollywood has dreamed of this as a fantastic entrance to some mythical land. For the musical-minded, all that is missing is a rendition of Grieg's imaginative "In the Hall of the Mountain King".

Length of time it takes to travel this Turnpike depends solely upon how fast the motorist wishes to drive. Speed is at his command and every possible highway safety feature has been provided. It is physically impossible to have some types of common accidents, such as head-on collisions, as a 10-ft. dividing strip separates the 2 lanes of traffic.

Reports are that the Pennsylvania legislature will make provisions for legalizing higher speed limits on the Turnpike. In the meantime, motorists are not being bothered if they remain sober, slow down to 50 when passing through the highway's 7 tunnels, and at other times keep both eyes on the road when going over 100 miles an hour.

However, on the reverse side of each fare ticket, given to all motorists at the point they enter the highway, the Turnpike Commission has this to say: "Do not exceed the mechanical limits of your vehicle and tires".

DO motorists obey these instructions is a natural question. Having just been in the role of a Turnpike motorist, the writer must admit that his speedometer once—on a down-grade—hovered around 95, then dropped to a more comfortable 70. But it should be added that his car was new at least 4 years before Roosevelt had third term aspirations.

While it is generally believed by Turnpike officials that many motorists who traveled the highway, during the first few weeks, were out to "see what's new", indications are that the greater percentage of traffic is normal.

Reasons given to substantiate this statement include the late opening, Oct. 1, when 1940 vacations were only memories for most car owners, and unofficial figures showing that traffic dropped about 30% on the Lincoln highway, which parallels the Turnpike.

Prior to the Turnpike's opening, it was estimated that about 3500 vehicles would use it daily. During the first 3 weeks, the daily average was 9390. Fol-

Stationed at each of the Turnpike's 7 tunnels, is a tow truck like the one above. These trucks are equipped with modern first aid, towing, and fire-fighting equipment

CITIES SERVICE

A NEW EXCLUSIVE CITIES SERVICE PRODUCT BETTER THAN BANK NIGHT FOR DEALERS

CISCO SOLVENT

Villain—Sludge. Well-known for its villainous performance inside engines, is sludge—a sticky, gummy substance that appears in lubricating oils from steady use. Sludge develops, causes hard-starting, cuts down power and mileage.

Hero—Cisco Solvent. Modern hero is Cisco Solvent, a new type of internal engine cleanser that dissolves sludge, restores useful power to old engines. Cisco Solvent differs from ordinary flushing oil. It was cheered lustily at its first performance at the 1940 Convention of Automotive Engineers.

Famous for repeat business. Cisco Solvent builds repeat business as well as wins new customers, because motorists notice results immediately on use. Easy to handle, easy to sell, Cisco Solvent comes in handy 5-quart containers. Sells for $1 a treatment, leaving a neat profit margin for you.

Exclusive with Cities Service. Like many "firsts" in the petroleum product field, Cisco Solvent is exclusive with Cities Service—one of many profitable advantages of belonging to the Cities Service Family. To find out how you can make money from Cisco Solvent, write the nearest office listed here.

CITIES SERVICE OIL COMPANIES

CITIES SERVICE OIL COMPANY — Chicago, New York, Cedar Rapids, Boston, St. Paul, Grand Forks, Kansas City, Fort Worth, Oklahoma City, Milwaukee, Cleveland, Detroit, Syracuse, Harrisburg.

CITIES SERVICE OIL COMPANY, LTD. — Toronto, Ontario.

ARKANSAS FUEL OIL COMPANY — Shreveport, Little Rock, Jackson, Birmingham, Atlanta, Charlotte, Nashville, Richmond, Miami.

lowing tables shows results of the first 3 weeks:

	Total number of vehicles	Number of passenger cars	Number of trucks
1st week.....	59,175	56,449	2726
2nd week.....	77,176	73,368	3795
3rd week.....	60,826	57,121	3705

Vehicles traveling the highway on the first Sunday totaled 26,279 and on the second Sunday, 28,671. Slight congestion caused by this unexpected number of vehicles, prompted a Pennsylvania newspaper to take a "dig" at the new road by headlining: "Dream Highway Becomes Nightmare".

Total revenue taken in by the Turnpike Commission, during the first week was $48,890, average toll per vehicle of 82c; and for the second week, $61,456, average toll per vehicle of 80c. The third week's revenue was $57,683, an average of 96c.

The world's only other highway, similar to the Pennsylvania Turnpike, is said to be the Autobahn in Germany. Originally planned to be 6000 miles, reports indicate that 3800 miles have been completed. Obviously built for rapid transportation during times of war, both American and German highway authorities state that it will be an economic life-line during times of peace.

At present, the Pennsylvania Turnpike seems to be serving largely as an amateur testing ground for passenger cars, but officials state that the federal government has already seen the economic importance of this type of highway in times of peace and the obvious aid to defense in times of war.

"But what does this mean?" NPN asked. Answers were vague; but it was gathered that the combined effect of public acceptance and government approval will result either in the extension of this Turnpike or in the construction—and in the near future—of others similar to it.

The Pennsylvania highway was built with an outright grant of $29,250,000 from the Public Works Administration and a loan of $40,800,000 from the Reconstruction Finance Corp. The RFC purchased the Commission's bonds.

As soon as sufficient money can be raised, the present Turnpike will be extended to Philadelphia. This extension has been approved by the Pennsylvania legislature.

While it has been thought that the federal government would be the only source from which to borrow large sums of money for future super highway construction, unofficial comment from the Turnpike Commission now is that banks and other private agencies might be willing to advance loans for this purpose, due to the public's willingness to pay for this type of rapid and safe travel.

NPN learned that some government statement will be issued soon at Washington, concerning the westward extension of the Pennsylvania Turnpike.

(For earlier details and pictures about the Pennsylvania Turnpike, see NPN, May 29, 1940, p. 25).

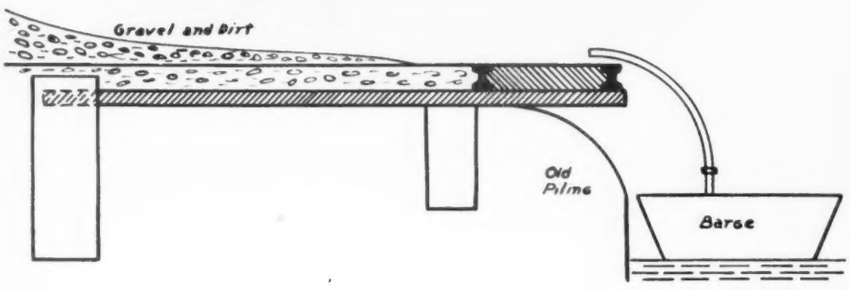
Cantilever Platform Solves Dock Problem

● Solving a problem not uncommon in the experience of oil companies operating river terminals, engineers of Socony Vacuum Oil Co. recently used a unique method in repairing its docking facilities on the Cuyahoga River in Cleveland.

Wood piling used in the former dock had rotted and allowed the bank to crumble away into the river. The piling, extending for a distance of 200 ft. along the bank, had been reinforced with 3 horizontal whaling strips—one at the water level, one at the top or ground level and one between these two. A gravel surfacing behind this piling made up the dock, before the timbers failed.

Facilities at this point are primarily for the handling of hose and lines from barges bringing products to the company's near-by terminal. The dock is not needed to handle other freight, such as barrels and package goods, although the new construction would be well suited for this purpose.

One solution would have been to drive new sheet steel piling to replace the wooden structure. This was discarded by the company's engineers, however, in favor of a cantilever arrangement which provided a good footing for the handling of shore loading hose and lines.



As illustrated by the accompanying drawing, in this arrangement 90 lb. "T" rails, 20 ft. long, were anchored in concrete on the shore end, with the other end flush with the face of the old dock. A second block of concrete was placed under these rails about 6 ft. in from the river end. Both concrete piers extended for the full 200 ft. paralleling the river. The rails were spaced at 10 ft. intervals along this distance.

Other 90 lb. "T" rails were then welded across the free ends of the projecting stringers for the full length and a second line of rails was welded into place 4 ft. in from the end.

The 4 ft. space between these two parallel lines was filled in with 2 in. creosoted white pine planking to form a 200 ft. walkway. Dirt was then graded down over the stringers and concrete supports on the shore side of this walk, and covered with gravel.

Coal Industry Fights to Halt Inroads Of Other Domestic Heating Fuels

THE coal and stoker industries are making a more determined bid this year than ever before to hold, and to regain, the domestic heating fuel market for solid fuel, especially that part it has lost, or is in danger of losing, to oil and gas. Their fight is built around claims of the convenience of stoker-fired heating plants, and the lower cost of utilizing coal for domestic heating.

A national program and local co-operative campaigns, sponsored by dealers and local associations, as well as individual efforts of dealers, are sparking the coal industry's drive. This has been augmented by consumers advertising plugging the use of coal in domestic and industrial installations by at least several railroads, which are large carriers of coal.

The vigorous fight of the coal industry to regain markets lost in past years to other forms of automatic heating fuels, is resulting in the increased use of solid fuel, according to Marc G. Bluth, executive secretary of the Committee of Ten, which comprises 3 national coal associations, 2 stoker associations and heating equipment manufacturers and contractor groups.

While no national figures are available, Mr. Bluth states that reports within the coal and stoker industries are that a good portion of the increase in stoker installations are being made in homes now using other forms of automatic heat—gas or oil.

The combination of the development of the stoker, and increased advertising effort in promoting the use of this form of coal heating, has resulted in a gain in factory sales of stokers of about 500% between 1934 and 1939.

The following table of factory sales of stokers, as compiled by the Committee of Ten, shows annual totals from 1930 to 1939:

Year	Factory Sales Stokers
1939	104,289
1938	96,433
1937	101,808
1936	86,080
1935	47,926
1934	28,704
1933	18,233
1932	9,571

From 1923 to 1932, total sales of stokers for each year were under 2000 units, the committee's report shows.

The trend is continuing sharply upward in 1940, with sales in the first half reaching 37,396 units, compared with 26,990 and 23,492 units for the first half years of 1939 and 1938, respectively.

From 1932 to 1939, the number of stokers in use increased over 2000%, while during the same period, the number of gas-fired central home heating installations increased almost in direct proportion with the increase in oil burners, between 120 and 125%.

The following comparison of stokers, central gas heaters, and oil burners in use between 1932 and 1939 was compiled by the American Gas Assn.:

	1939	1938	1935	1932
Oil Burners*	1,905,000	1,689,000	1,155,000	843,000
Gas-Fired Central House Heating Plants**	900,000	825,000	566,000	408,000
Coal Stokers	470,000	371,000	102,000	21,000

*Not including space or water heaters oil fired.
**Not including space and unit heaters gas fired.

Railroads Push Coal Sales

The advertising campaign of the Norfolk & Western Railway emphasizes the economical operation of underfeed stokers. Urging the use of Pocahontas coal, advertising placed by this railroad in daily newspapers, offers to assist in the solution of any fuel problem. The road offers to send a representative of its coal bureau to explain the advantages of coal, and to help solve consumers' fuel problems.

"You'll Do It Better With Coal," is the theme of the advertising program

CHATHAM PARK'S Plan for BETTER LIVING
Includes Clean, Automatic COAL Heat
Chatham Park, Chicago's new village of apartment homes, is composed of 554 Duplex houses, garden apartments, and suites grouped along beautifully landscaped, private roadways
Shaw, Naess & Murphy Architects
Robt. C. Regan Company Contractors
Dovenmuehle, Inc. Mortgage Bankers
C. Wallace Johnson, Inc. Managers
The atmosphere of quiet charm and good taste seen in this living room typifies the conservative, modern design of the entire community.
CHATHAM PARK'S every feature stresses the cherished attraction of the home . . . soundproof suites, individual garages, pleasant recreation rooms, protected play areas for children . . . a far cry indeed from old-fashioned "flats" with their back yards and rows of eyesore porches.
The community has a hot-water heating system that's far from ordinary, too. Boilers below ground level in a central heating plant are fed by four ram-type stokers, and this proper automatic combustion eliminates smoke. The heated water is distributed through seventy-two buildings to convectors hidden behind decorative screens. Tenants simply turn a knob for clean, healthful heat from COAL, the fuel that fits the plan.
Have you a heating problem requiring a modern solution? This railroad's Fuel Service Engineers will gladly work—at no charge—with architects, owners and engineers, to develop heating plants to fit specific needs. Further help—meeting precise fuel requirements—is offered by the modern mines along the Chesapeake and Ohio Lines.
May we help you? For information or the assistance of our Fuel Engineers, write GEORGE H. REINBRECHT, Coal Traffic Manager, Chesapeake and Ohio Lines, 2910 Terminal Tower, Cleveland, Ohio.
YOU'LL DO IT BETTER WITH COAL
CHESAPEAKE AND OHIO LINES

Railroads which depend on revenue from carrying coal have tied in with the coal and stoker industries in promoting the sale of solid fuel. Above is a reproduction of advertisement of Chesapeake and Ohio Lines, which depends on coal for most of its freight revenue

In promoting the sale of stokers and the use of coal displays in vacant windows in the main sections of cities are being utilized. Displays of stokers also are prominent at home heating and building exhibitions. Above is a part of a display of stokers in a window in downtown Cleveland

carried on in the interest of the coal industry by the Chesapeake & Ohio Line. This road, in a series of full page magazine advertisements talks to the coal industry's market—especially the large industrial users, stressing fuel costs, and emphasizing the economies and operating efficiency of coal as an industrial or domestic fuel.

National Assn. Program

For the past 3 years, the National Coal Assn. has been carrying on a nation-wide campaign to promote the use of coal as a home fuel. For each of the past 2 years, the association's advertising appropriation for this campaign has been increased.

While the actual appropriation which is being used to carry on its campaign was not revealed by the association, the group states that its 1939 budget was 40% higher than its initial appropriation in 1938, and it has been increased 35% for the current year.

In its program, the national group utilizes national consumer magazines, with copy aimed at showing advantages of coal, stressing its lower cost. It also used architectural and building journals, urging readers to install coal heating plants, and stokers in their buildings and to recommend coal heat to their clients. This phase of the program also included a basement planning service for architects, home builders and owners, showing convenient layout for heating plants, and coal bins. It also recommended installations of bin-fed stokers, showing different applications of these combined bins and stokers.

"The launching of numerous cooperative advertising and sales promotional projects in a number of important cities and market areas is the most encouraging and important factor that has appeared on the coal cooperative 'battlefront' in the past few years," comments a report by the Committee of Ten. "These local efforts have had double strength for the National Coal Association's advertising campaign on a national basis has backed up every one of these efforts," the committee adds.

"Local groups of coal retailers in cooperation with stoker dealers, and in a few cases with the support of the local power utility, are proving that local concentrated effort can be highly effective in meeting, in a constructive and aggressive manner, the high-powered competition of other fuel and equipment suppliers."

Local Programs Outlined

In this article are listed, briefly, a few details of some of the more important programs aimed at increasing the use of coal as a domestic heating fuel. These programs are carried on by local groups in various cities around the country. Besides those listed, however, co-operatively financed advertising has been and is carried on in many other cities of the country. Displays of modern stokers by dealers and local groups selling this equipment, and co-operative and individual advertising aimed at the consumer, are also in the fight for solid fuel.

Muncie, Indiana

Muncie is the "typical American City," and for just that reason was chosen to be the scene of a joint public relations program of the coal and coal-burning equipment industries to try out a tentatively planned national campaign.

An inter-industry committee representing Anthracite Industries, Inc., Appalachian Coals, Inc., Battelle Memorial Institute, an endowed research group, Bituminous Coal Research, Inc., Committee of Ten, Institute of Cooking and Heating Appliance Manufacturers, National Coal Assn., National Warm Air Heating and Air Conditioning Assn., and Stoker Manufacturers Assn. is responsible for this effort to stimulate interest on a national basis in sold fuel appliances.

The program was conducted by a local inter-industry committee. A "Coal Burning Week" was held in September in Muncie, during which all allied interests advertised coal and coal-burning equipment by every possible means to gauge united efforts in such a program. The results of the first phases of this program are being studied now, and will be made public shortly. However, a spokesman for one of the group involved in this effort stated that the program so far, has been "very successful."

The try-out of the plan in Muncie is the result of a decision reached by members of the national inter-industry committee. The success of carrying through tentative plan for a national campaign, depends entirely upon the ability of local groups. The try-out is being used as a guide to co-ordinate future efforts of the allied industry in other communities.

Kansas City, Missouri

Probably the most ambitious and extensive local campaign created by a local coal group within the past few years, is the co-operative advertising drive in Kansas City, sponsored by coal operators in Kansas, Missouri and Oklahoma, with the Kansas City Power & Light Co., and retail coal and stoker dealers.

Consumption of coal in Kansas City had dropped about 60% from 1925 to 1939, and to stop the inroads made by natural gas and oil, operators and retailers banded to form the Bituminous Coal Utilization Committee, late in 1938. It began to function in Febuary, 1939.

"We had tried everything, we thought of," said A. R. Stock, Kansas City, Sinclair Coal Co., and chairman of the committee, commenting on the work of the group. "Price made coal the most economical fuel. Our advertising and merchandising were aggressive. None of these stopped the decline," he said.

"The solution came," he added, "with advertising and merchandising, but in them this time were new elements. We quit selling coal, which nobody wanted, and started selling a method of heating that was automatic, clean and convenient, as well as economical and safe. We learned that what competitive fuels had been selling was not fuel, for which people paid more than they did for coal, but a method of heating that was cleaner and more convenient than people had been using."

For the second year, co-operative newspaper advertising is being used, with local coal and stoker dealers

tying into the general campaign with their advertising copy. The group raised $15,000 for the first campaign, and it is understood that a similar or slightly larger amount has been raised for the general campaign this year.

In 1939, slightly over 1500 stokers were installed in Kansas City, while up to the time the program started, only 3300 stokers had been in use. During the current year, the industry expects to double its record of stoker installations made last year.

It is significant to note, in the report by Mr. Stock, that "of the stokers sold, 14% went into new homes, 26% replaced competitive fuels and 56% replaced high-priced smokeless coal. It is in the field of 56% that competitive fuels were reaping their harvest of new customers," he added.

Chicago, Illinois

For the past 10 years, The Chicago Coal Merchants Assn. has conducted a consistent year-around newspaper advertising campaign advocating the use of coal as a home heating fuel. In the past several years, it has been featuring the convenience of stokers.

For the first time this year, the association is also utilizing billboards, as well as newspapers, to bring its message to the consumer. Several months ago, the retailers association and the Midwest Stoker Assn. co-operated in several promotional projects, including the Coal and Stoker Exposition held in conjunction with the Chicago Home Show. These 2 groups have also negotiated for space in Chicago's merchandising mart for a permanent exhibit of stokers and coal heat.

St. Louis, Missouri

The smoke problem of St. Louis, which has received nation-wide publicity, culminated in a city ordinance, which went into effect Aug. 1, prohibiting the use of high volatile coal in hand-fired furnaces. This high volatile coal, industry representatives here report, however, can be utilized in a stoker. Because of the new ordinance, the coal and stoker people have made a concerted drive in the city, and estimate that over 5000 underfeed stokers will be installed in the city during 1940. In the first 7 months of the year, permits were issued for 1568 small stokers and 280 large units, a total of 1848 units with no report available for the best selling months of August, September and October. In the same period, permits were issued for 261 oil burner installations and 412 gas burning jobs, a combined total of 673, showing a sales ratio of 3 stokers to 1 combined oil and gas installation.

Milwaukee, Wisconsin

The Milwaukee Solid Fuel Institute has directed an advertising campaign to reach new home buyers, as well as present users of solid and competitive fuels. It has also established a home heating engineering department. Services of consulting engineers were made the basis of special advertising directed at individuals building or reconditioning their homes, architects, real estate firms, building contractors and financial institutions with large property investments. Building and home construction permits are followed up, and the services of the Institute's engineer is offered in planning heating requirements.

Springfield, Illinois

Springfield Better Heating Service Council has been organized by the local power company, 3 coal operators, with the co-operation of stoker dealers. The Council offers free technical service to further the more satisfactory use and sale of coal and modern coal burning equipment. The Council uses newspaper advertising, and local dealers use advertising space on the same pages, and "approved dealers" are using the Council's approval seal or emblem in the advertisements. Free inspection of heating plants is offered in newspaper ads.

Cincinnati, Ohio

A group of Cincinnati coal retailers are advertising co-operatively in local building and real estate magazines, illustrating the ads with pictures of the more pretentious homes in the area using automatic coal heat.

Syracuse, New York

Syracuse Coal Exchange is conducting a co-operative advertising campaign in newspapers and in locally-circulated building and architectural journals, reaching architects, contractors, builders and real estate men, with the theme, "Investigate before You Inform."

Employes of Humble Oil & Refining Co. are reminded of accident hazards by large two-color posters, facsimile of which is below. Men are encouraged to look over suggested remedies on this poster

Protect
YOURSELF
YOUR CUSTOMERS
YOUR STATION
Gasoline is essential for automobile engines, but should never be used for any cleaning job. Kerosene is safer, more economical, equally as effective.
Oil spots not immediately removed, use of too much caustic, or failure to rinse properly, and dirt allowed to accumulate—these form dangerous slick spots on driveways.
Cars carelessly placed on the lift form major hazards. There's danger of serious injury to you; danger of costly damage to the car. Take 2 minutes to make sure.
When installing battery cables, guard against contacting more than one point on the battery or frame at a time. Sparks may ignite hydrogen in battery cells and cause explosions.
When inflating tires, make full use of fender protection. Blowouts may result from careless inflation and cause serious injury.
An overheated car will spew blistering hot water unless water is fed slowly into the radiator. There is also danger of block breakage when cold water hits a hot motor too fast.
There are tools for every type of job to be done in a service station. Select the correct tool and use it as recommended.
Oily rags tossed into a close place may cause a fire by spontaneous combustion. Discard them with other station garbage rather than pile them in a closet.
Ask customers to cut off their motors while filling the tank. You make it safer for yourself, for them, for their car, and for your station.
Tools and equipment scattered about the station premises form dangerous hazards. Injury to customers and lawsuits may follow. Replace all tools in proper places.
Hot bottled drinks often explode when placed directly on ice or in ice water. Cool them gradually to prevent serious face and body cuts.
Radiator caps and oil gauge sticks may be very hot in summer weather. Use a rag to protect your hands.
LIFE, LIMB, AND PROPERTY ARE MORE VALUABLE THAN TIME.
GIVE SPEEDY SERVICE, BUT PERFORM EVERY SERVICE SAFELY.

Make An ALL-TIME PROFIT RECORD with ALLPEN

ALLPEN

Take advantage of our low wholesale cost . . . . *buy direct from refinery* in sealed packages . . . . enjoy the wide spread between your cost and selling price and compete successfully with advertised oils selling at higher prices. In ALLPEN you offer the equal of the finest 100% Premium Bradford Pennsylvania Oil . . . . the product of our solvent process of controlled dewaxing . . . . a marvelous product. Write for samples and complete information.

Let Us Quote On

HIGH FLASH CYLINDER STOCKS — SOLVENT DEWAXED NEUTRALS

150 - 180 - 200 - 250 vis. at 100

BRIGHT STOCKS — BLENDED MOTOR OILS

In Tank Cars, Drums and Cans

Bradford

OIL REFINING COMPANY

PRODUCERS, REFINERS MARKETERS

100% PURE PENNSYLVANIA OIL

BRADFORD PENNSYLVANIA U. S. A.

Order Now!

Extra Copies—WINTER CHANGE-OVER ISSUE

For 10c each, put a copy of this November 6th issue in the hands of every station attendant, salesman and division manager in your company.

You'll be surprised at the INCREASED business that will result from a study and application of the information in this issue to your WINTER CHANGE-OVER sales and conditioning market.

CLIP and MAIL TODAY!

NATIONAL PETROLEUM NEWS,
531 Penton Bldg., Cleveland, Ohio

Send ..... copies of the Nov. 6th WINTER CHANGE-OVER ISSUE, at 10 cents per copy. Enclosed is check for $.....

(Ohio purchasers please add 3% sales tax)

NAME .....

St.-Box ..... City-State .....

NPN's Lube Campaign Boosts Sales Volume Of Delaware Marketer

The tools provided for oil marketers by NATIONAL PETROLEUM NEWS, in its educational campaign for better lubrication of cars this summer of 1940, were used with marked success by the Diamond Ice & Coal Co., an established independent marketer in Delaware. During June, July, and August this year, motor oil sales at its 40 stations increased 44%, volume of lubrication jobs 42%, over the same period last year.

At the same time, this company's gasoline gallonage showed a rate of increase nearly twice as great as that for the state of Delaware as a whole. Yet, increase in the sale of motor oil was twice as great as the increase in gasoline sales.

This larger rate of increase in motor oil gallonage is significant, the company says. It shows that a greater market for this company's lubricants was created among existing customers, and that few customers were taken from competitors. To put it another way, the increase in the sale of lubricants is not attributable to a general increase in business, but to an intensive program designed to sell better lubrication protection to customers already on the books.

When NATIONAL PETROLEUM NEWS' 1000-mile lubrication campaign was launched in its issue of June 12, the Diamond Ice & Coal Co. ordered 50 N.P.N. display posters for its stations. It also took a similar number of reprints of each of the engineering and sales articles as fast as they were available.

The posters were prominently displayed at each station. They were put up, not by the dealers themselves, but by the company's "station supervisors", of which there are two. Driveway salesmen called motorists' attention to the N.P.N. posters whenever possible. They built short sales talks which would incorporate studying the posters with the motorist. Reprints of the engineering and sales articles were "required reading" for the driveway salesmen. From these articles they took the information used in their sales talks. A letter from H. M. Figgatt, manager of Diamond's Motor Fuels Division, went with each reprint, telling how the material could be used to the best advantage.

In all the company's telephone solicitation and direct mail advertising this summer, N.P.N. was given as the authority for 1000-mile oil change and lubrication. Reaction of car owners to the program was "very favorable", the company said. Typical of comments was an expression of "gladness" that "something was coming out" to

throw some light on proper lubrication maintenance.

Diamond's program centered around stations where sales of lubricants were low. One of the station supervisors spent 2, 3 or 4 days at each station, as the occasion demanded. Before his arrival, customers were contacted by telephone and direct mail. They were told that a "lubrication expert" would be on hand on a certain day, and they were asked to come in and have their cars lubricated that day, under supervision of the expert. Response was good, as shown in the sales records.

Company officials believe these results could not have been secured without the concentrated sales program built around the technical reasons why oil should be changed and cars lubricated every 1000 miles.

The progressiveness of this independent oil marketing company has been a decided factor in building its sales. Equipment at all stations is complete and the company has a perpetual program of station modernization. Rest rooms are clean and well-equipped, the majority having sterile toilet seats.

Also, the Diamond Ice & Coal Co. works closely with its dealers. Monthly meetings are held and programs mapped out for the month. Full assistance is given each station by the "station supervisors", who are constantly making the rounds, solving individual dealer problems and assisting in merchandise displays. Each day, the company receives a complete report on each station's previous day's sales. Competition between the company's dealers is keen, and it is a frequent sight to see dealers in the home office, checking their sales against sales of the Diamond station or stations closest to them.

Oil's Fire Losses Lowest in 10 Years

Oil industry's fire losses in 1939 were the lowest in the 10 years since records have been compiled, marking a new high in the industry's efficiency in producing, refining and transporting to consumers 150,000,000 gals. of products each day, reports the American Petroleum Institute.

Losses in all branches of the industry, based on reports covering 64,048 properties with an insurable value of about $1,000,000,000, averaged only 5c on every $100 of value. In 1930, the fire-loss ratio was 14.9c per $100.

Fire-loss on oil stocks in 1939, reported separately, averaged 4.7c per $100 on oil stocks having a value of $383,974,763. This is less than the loss on other properties.

'Shell Progress' Wins Contest

"Shell Progress," house magazine for Shell Oil Co., was recently awarded first prize in the annual contest conducted by employes' section of National Safety Council. Prize was awarded on basis of physical appearance and effectiveness in promoting good industrial relationships, safety and health. W. M. Thompson, New York, is editor.

TRADEMARKS

The following are trademark applications pertinent to our field pending in the United States Patent Office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, Munsey Building, Washington, D. C., trademark specialists.

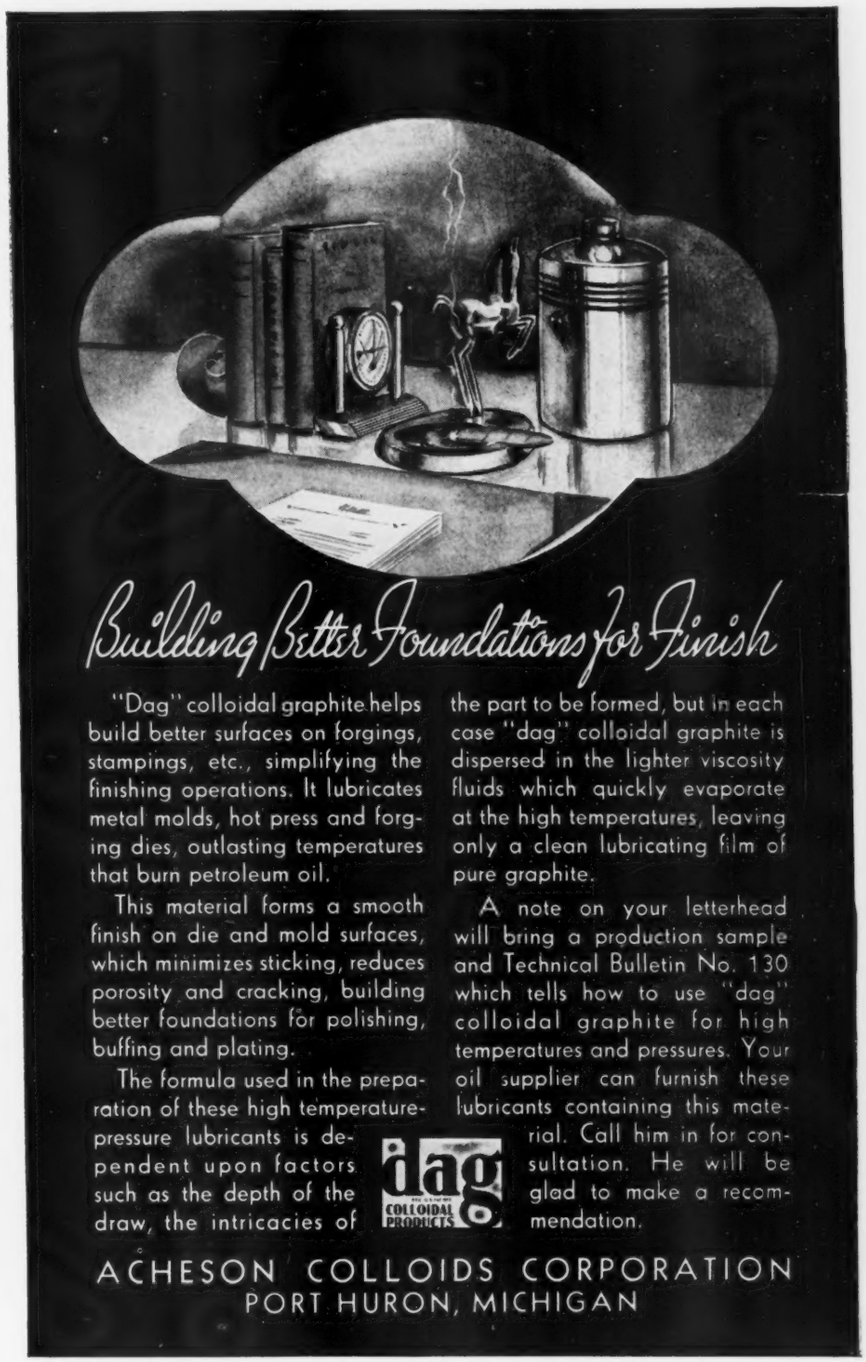
TRACTOLUBE. Ser. No. 430,469, Union Petroleum Company, Lexington, Nebr. Filed: April 6, 1940. For lubricating oils. Published: October 15, 1940.

CREOLE and fanciful portrait of man. Ser. No. 435,192, Bayou State Oil Corporation, Shreveport, Louisiana. Filed: August 21, 1940. For lubricating oils and greases and motor oil. Published: October 15, 1940.

HILTS LABORATORIES LIMITED and fanciful design, Ser. No. 430,960, Hilts Laboratories, Limited, Honolulu. Territory of Hawaii. Filed: April 19, 1940. For insecticides, disinfectants and alkalies. Published: October 8, 1940.

MOTORTONE, Ser. No. 434,068, William J. Hurley, dba Hur-Dol Sales Company, Pottsville, Pa. Filed July 17, 1940. For cleaning solvent for dissolving carbon in internal combustion engines and gas lines of engines. Published: October 8, 1940.

NUZIP, Ser. No. 435, The Pennzoil Company, Los Angeles, California. Filed August 22, 1940. For chemical preparation used for the removal of gum, varnish, and sludge deposits in internal combustion engine cylinders and associated parts. Published: October 8, 1940.


Building Better Foundations for Finish
"Dag" colloidal graphite helps build better surfaces on forgings, stampings, etc., simplifying the finishing operations. It lubricates metal molds, hot press and forging dies, outlasting temperatures that burn petroleum oil.
This material forms a smooth finish on die and mold surfaces, which minimizes sticking, reduces porosity and cracking, building better foundations for polishing, buffing and plating.
The formula used in the preparation of these high temperature-pressure lubricants is dependent upon factors such as the depth of the draw, the intricacies of the part to be formed, but in each case "dag" colloidal graphite is dispersed in the lighter viscosity fluids which quickly evaporate at the high temperatures, leaving only a clean lubricating film of pure graphite.
A note on your letterhead will bring a production sample and Technical Bulletin No. 130 which tells how to use "dag" colloidal graphite for high temperatures and pressures. Your oil supplier can furnish these lubricants containing this material. Call him in for consultation. He will be glad to make a recommendation.
dag
COLLOIDAL PRODUCTS
ACHESON COLLOIDS CORPORATION
PORT HURON, MICHIGAN

Defense Needs Cited; Highway Diversion Hit By Head of A.A.A.

As national defense needs for strategic highways become more important, misuse of motor tax revenues by the states, over a period of years, is now evident, says a report from the American Automobile Assn., pointing out the inadequacy of thousands of miles of roads.

Stating that every cent of motor tax money collected would be required to gear up the highway needs of the defense program, Thomas P. Henry, A.A.A. president, recently made a strong plea to the states to stop diversion of highway funds. He said, in part:

"Nearly one billion dollars of the revenue from motor vehicle taxes have been side-tracked by the states from highway construction and maintenance during the past 10 years and what is the result? We find that an enormous amount of work must be done on the 80,000 miles in the strategic system to bring this mileage up to the requirements of a mechanized military establishment. Thousands of bridges must be torn down and reconstructed. Much of this could have been already done with the money diverted from its proper use.

"These highways have a 3-fold function: They carry most of the ordinary motor travel of the American people. Over them must move a large part of the raw materials and the finished products vital to national defense, and, of course, they are essential to troop movements from scores of mobilization points to concentration areas.

"The sooner all the states adopt constitutional amendments prohibiting diversion, the better off we are from a defense and other standpoints."

Let's Talk TURKEY

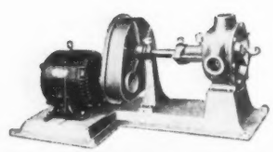


FIG. 12

FIG. 120

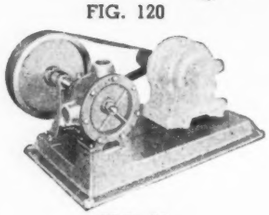


FIG. 53

You want a pump that's simple in design — Viking Rotary Pumps employ only 2 moving parts! You want a pump that's easy to service—Viking's famous "Gear Within A Gear" Principle makes servicing a cinch, requires less servicing. You want a pump that can be installed in a hurry—Viking's compact design cuts installation time in half, requires less floor space. You want a pump you can depend upon—many Viking Rotary Pumps have been in constant use for more than 20 years. For full information and detailed specifications on Viking Petroleum Pumps, write for Bulletin 405-40.

LOOK FOR THIS TRADE MARK— THE SIGN OF A GENUINE VIKING!

VIKING PUMP COMPANY
CEDAR FALLS, IOWA

New Erie Meter Division Headed by Carriger

A. D. Carriger has been appointed division manager in charge of the Southeastern Division of Erie Meter Systems, Inc.

Mr. Carriger has had 30 years of experience in the pump industry in Atlanta, New York and Chicago, and has a wide acquaintanceship in the oil industry.

Southeastern Division is a new division sales and service office with headquarters at 1019 and 1020 Healey Building, Atlanta, and includes the states of Florida, Georgia and South Carolina.

'Travel America Hall' To Stimulate Motoring

As a further stimulant to travel in this country, "Travel America Hall" has been estabilised by the United States Travel Bureau, Department of Interior, announces J. R. Anderson, eastern office supervisor.

Devoted solely to daily travel promotion activities, the program includes lectures, sound motion picture travelogues, slides and exhibits, all free to the public. "Travel America Hall" is located at 45 Broadway, New York City.

A series of weekly travel programs is planned. Films included are "Flagships of the Air," and "Through the Rockies by Rail."

In announcing the opening, Mr. Anderson said: "Although 'Travel America Hall' was an official activity of the Bureau, it was also a joint enterprise of the many organizations in the travel industry as well as educational institutions that have made the programs possible, through donation of exhibits and offers of co-operation. In addition, to the numerous agencies supplying travelogues concerning their areas throughout the United States, many have furnished permanent fixtures and displays."

Film programs will include travelogues of various cities and states. The Bureau distributes brochures, folders, maps and descriptive literature supplied by the National Park Service and private co-operating agencies.

MARKETS

Mid-Continent

TULSA, Nov. 23.—Advances of 0.125c in quotations by three Oklahoma refiners for burning oils featured Mid-Continent markets the past week.

Quotations reported by Oklahoma refiners ranged from 3.50 to 3.625c for No. 1 straw, up 0.125c on high and low, and 3.375c for No. 3 fuel, also up 0.125c. Spot sale of 5 cars of U. G. I. gas oil at 3.25c was reported by an Oklahoma refiner; one other refiner reported quoting 3.25c. Most Mid-Continent refiners said stocks of range oil and Nos. 1 and 2 fuels were "very low", and some said they were buying to supplement current production.

Sales of Grade 26-70 natural gasoline reported the past week totaled 25 cars at 2.25c, FOB Group 3, and 16 cars at 2c, FOB Breckenridge. Three sellers reported quoting 2.25c, FOB Group 3; two sellers reported quoting 2c, FOB Breckenridge. Sales of 13 cars Grade 26-70, 8 cars 22-lb., and 6 cars 18-lb., all FOB Group 3 and 20 cars 18-lb., FOB Breckenridge, were reported, based on "OILGRAM price date of shipment."

Refined gasoline demand was said to be "at or above seasonal normal." No changes in quotations were reported in any Mid-Continent district.

Pennsylvania

CLEVELAND, Nov. 23.—Kerosine prices moved up 0.125c in the lower field, while quotations for other products, for the most part, were unchanged, according to reports of western Pennsylvania refiners the past week.

Demand for kerosine against contracts was heavy, refiners said. Quotations reported from the lower field for 45 w.w. were at 5c, and 47 w.w. 5.125 to 5.25c, up 0.125c for both grades.

"Inter-refinery prices have moved up to the point where they are now 1c under prices to compounders and jobbers on bright stock and dark stocks," one refiner commented "Before the recent crude advance, inter-refinery prices were 2 to 2.25c under," he added. Inter-refinery sales of 25 pour test bright stock were reported at 10.50c and 11c; quotations to jobbers and compounders reported by refiners ranged from 12 to 14c. An inquiry for 25,000 bbls. of bright stock was said to be in the market.

Brokers were reported bidding 2.50c a lb. and up, New York, for white crude scale wax. "Some brokers bidding this price, however, have come back to us and paid pretty close to 2.85c," one refiner said. This refiner said he had sold at 3.15c, New York, for January shipment. Spot quotations reported by refiners the past week ranged from 2.85c to 3c, New York.

Atlantic Coast

NEW YORK, Nov. 23.—Gasoline was quoted higher at Albany and Portland, lower at Savannah and Jacksonville, according to reports of Atlantic Coast suppliers the past week. There were "signs of improvement" in kerosine and Nos. 2 and 3 fuels, suppliers said. No changes in quotations were reported.

Quotations for 72-74 oct. gasoline were down 0.25c to 6c at Savannah and Jacksonville, when several suppliers reported reductions at these points. Albany 72-74 oct. and Portland 68-70 oct. were both up 0.2c to 5.80c and 5.90c, respectively.

No. 5 fuel oil was quoted 10c higher at $1.45 per bbl. at New York Harbor, with prices reported by some suppliers ranging up to $1.55.

Mid-Western

CHICAGO, Nov. 23.—Shipments of all grades of burner fuels continued heavy the past week, according to reports of refiners and tank car marketers in Chicago. Demand for range oil against contracts was especially heavy, it was said. Most sellers reported steady demand for industrial fuels, with gasoline shipments "above seasonal expectations." Quotations for the most part were reported unchanged.

Open spot sales reported by four tank car marketers during the week totaled as follows: 11 cars of 72-74 oct. gasoline at 3.875c; 3 cars of 63-66 oct. at 3.375c; 1 car of 60 oct. and below at 3.25c; 2 cars of Ethyl at 4.625c; 1 car of 41.43 kerosine at 3.625c; 6 cars of range oil at 3.50c; 3 cars of No. 1 p. w. fuel oil at 3.50c; and 1 car of No. 2 straw at 3.125c, FOB Group 3.

Six marketers reported quoting 3.875c for 72-74 oct., 3.375 to 3.75c for 63-66 oct., 3 to 3.50c for 60 oct. and below, 3.50 to 3.75c for 41-43 kerosine, 3.375 to 3.625c for range oil, 3.25 to 3.50c for No. 1 p. w., and 3 to 3.375c for No. 2 straw. Quotations reported by refiners ranged from 4.50 to 5c, 4.125 to 4.50c, 3.75 to 4.25c, respectively, for the three grades of gasoline; 3.875 to 4.125c for 41-43 kerosine, 3.50 to 3.75c for No. 1 p. w., 3.375 to 3.50c for No. 2 straw, and two refiners reported quoting 3.625c for range oil.

Gulf

NEW YORK, Nov. 23.—Inquiry for two cargoes of 80 oct. ('39 research) gasoline, with buyer offering to pay 3.625c, was reported at the Gulf the week ended Nov. 23. No open spot cargo sales were reported here or from the southwest.

A refiner quoting 3.50c for No. 2 fuel oil said he had turned down bids at "3.125c and 3.25c." Asking prices of some refiners for No. 2 fuel ranged upward from 3.25c. Kerosine remained "firm" at 3.875c and cargo lots of Bunker "C" fuel "strong" at $0.80, refiners said.

California

LOS ANGELES, Nov. 23.—Fuel oil, 10-12 gravity, 200 viscosity, with 2 to 3 per cent sulphur content, was reported quoted the past week by independent refiners in the Los Angeles Basin at $0.45 per bbl. A product of 16-17 gravity, 100-125 viscosity, 1.5 per cent sulphur content, was offered at $0.65 per bbl., according to reports. These figures represented fractional advances over previous quotations.

Fuel oil prices also were reported higher in the export markets. Advances of 2.5c per bbl. were reported by independent suppliers for Grade C fuel oil for ships' bunkers or deep tank lots, bringing the range for this product to $0.625 to $0.75.

No independent third grade gasoline was reported available in the Basin area for less than 4.5c per gal. as compared with a low of 4.25c in recent weeks.

Highway Safety Makes Record

Highway safety chalked up a record within the past five years, despite national indices which show vehicle registration, gasoline consumption and industrial production at all-time highs. This report was made recently by Norman Damon, director of the Automotive Safety Foundation.

Puerto Rico 'Gas' Shipments Break All Previous Records

Shipments of gasoline to Puerto Rico from continental United States broke all records during the fiscal year just ended, reports the Puerto Rican Trade Council.

Gasoline shipments to the territory amounted to 958,100 bbls., a gain of 27% over the 1938-39 year. The island's gasoline purchases have more than doubled in past 5 years. Sales of passenger cars and trucks to Puerto Rico have also shown a sharp increase.

REFINERY and SEABOARD PRICES

In bulk lots by Motor Transport, Tank Car, Barge or Tanker as shown

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

HOW PRICES ARE REPORTED—

Refinery and Seaboard prices in National Petroleum News are gathered by PLATT'S OILGRAM and are as published in the Monday issue of the OILGRAM.

PLATT'S OILGRAM is a reporting service issued in three identical editions daily from News Bureaus at New York, Cleveland, and Tulsa, Okla. PLATT'S OILGRAM gathers and publishes what its publisher and representatives believe to be accurate news of sales, prices and current happenings affecting the oil industry and that will be of interest to its subscribers. As this information is usually private, OILGRAM reports it according to what it is able to obtain from sources deemed reliable.

All information is supplied without guarantee as to its completeness, accuracy time of transmission or promptness of delivery.

The subscriber receives this information for his private use and not for resale or further distribution.

Publisher reserves the right to change the extent, nature and form of showing this information at any time.

Prices shown in the tables are quotations (meaning sellers' general offers or posted prices), or actual sales prices, reported to OILGRAM by refiners for "open spot" transactions, except as otherwise specified.

Prices arrived at by discounts off a specified price or "market date of shipment," prices named in contracts or prices arrived at in accordance with any arrangement made prior to date of sale, are not for "open spot" transactions and therefore are not considered in making the price tables. Prices made to brokers and prices in "inter-refinery" transactions are also not considered except as may be noted.

All prices are for "immediate" shipment except in Gulf Coast bulk transactions where shipment is generally to be made in ninety days. Prices are FOB refineries, pipelines, or tanker terminals in districts designated.

Prices shown are for quantities in bulk such as tank car lots, motor transport lots or barge lots; and in cents per gallon; heavy fuel oils are in dollars per barrel of 42 U.S. gallons; wax and petrolatums are in cents per pound. Prices applying to barges or cargoes only are so designated.

Prices do not include taxes or inspection fees. Prices are published at the close of the business day.

Mid-Western prices in the tables were gathered from refiners with offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Other refinery prices are given by and for the particular refining district where the material is made and from which it is shipped.

When prices obtained by OILGRAM do not conform to these conditions the exception and the new conditions are noted in the news lead or in conjunction with the price table by footnote or otherwise, for the particular refinery or sales district involved.

Crude oil and products covered by OILGRAM'S news and price service, except where noted, have been represented to the publisher as fully up to the customary trade specifications indicated and according to the generally accepted methods of test; and all crude oil and all products thereof as having been lawfully produced and transported.

Any apparent error should be reported to the nearest OILGRAM or National Petroleum News office at once as no correction will be made after the second issue of the OILGRAM or National Petroleum News following its publication.

Summary of Daily Gasoline Prices (Nov. 19 to Nov. 25)

U. S. Motor, (ASTM octane	Latest Prices Mon. Nov. 25	Nov. 22	Nov. 20	Nov. 19
72-74 octane:				
Oklahoma	(u) 4.50 –5.00	(u) 4.50 –5.00	(u) 4.50 –5.00	(u) 4.50 –5.00
Mid-Western (Group 3 basis)	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.50 – 5.25	4.50 – 5.25	4.50 – 5.25	4.50 – 5.25
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.00 (2)	5.00 (2)	5.00 (2)	5.00(2)
63-66 octane:				
Oklahoma	4.125– 4.50	4.125– 4.50	4.125– 4.50	4.125– 4.50
Mid-Western (Group 3 basis)	4.125– 4.50	4.125– 4.50	4.125– 4.50	4.125– 4.50
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.125– 5.00	4.125– 5.00	4.125– 5.00	4.125– 5.00
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.50 (2)	4.50 (2)	4.50 (2)	4.50 (2)
60 octane & below:				
Oklahoma	3.75 – 4.25	3.75 – 4.25	3.75 – 4.25	3.75 – 4.25
Mid-Western (Group 3 basis)	3.75 – 4.25	3.75 – 4.25	3.75 – 4.25	3.75 – 4.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	3.75 – 4.50	3.75 – 4.50	3.75 – 4.50	3.75 – 4.50
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.00 (2)	4.00 (2)	4.00 (2)	4.00 (2)
Motor Gasoline, 72-74 octane (ASTM)				
New York harbor	5.00 – 6.50	5.00 – 6.50	5.00 – 6.50	5.00 – 6.50
Philadelphia district	5.25 – 7.00	5.25 – 7.00	5.25 – 7.00	5.25 – 7.00
Baltimore district	5.50 – 6.75	5.50 – 6.75	5.50 – 6.75	5.50 – 6.75
Motor Gasoline:				
74-76 Octane: (L-3)				
Bradford-Warren (Western Penna.)	6.00	6.00	6.00	6.00
Other Districts (Western Penna.)	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
72-73 Octane: (L-3)				
Bradford-Warren (Western Penna.)	5.75 (2)	5.75 (2)	5.75 (2)	5.75 (2)
Other Districts (Western Penna.)	.....	.....	.....	.....

REFINERY PRICES

Gasoline U. S. Motor (ASTM Octane) except where otherwise specified

Prices Effective	Nov. 25	Nov. 18
OKLAHOMA		
72-74 oct.	(u) 4.50 –5.00	(u) 4.50 –5.00
63-66 oct.	4.125– 4.50	4.125– 4.50
60 oct. & below	3.75 – 4.25	3.75 – 4.25
60-62 400 e.p.	4.00(2)	4.00(2)
MID-WESTERN		
72-74 oct.	4.50 – 5.00	4.50 – 5.00
63-66 oct.	4.125– 4.50	4.125– 4.50
60 oct. & below	3.75 – 4.25	3.75 – 4.25
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
72-74 oct.	4.50 – 5.25	4.50 – 5.25
63-66 oct.	4.125– 5.00	4.125– 5.00
60 oct. & below	3.75 – 4.50	3.75 – 4.50
60-62, 400 e.p.	4.25–4.75 (2)	4.25–4.75 (2)
W. TEX. (For shpt. Tex. & N. M. dest'ns.		
72-74 oct.	5.00(2)	5.00(2)
63-66 oct.	4.50(2)	4.50(2)
60 oct. & below	4.00(2)	4.00(2)
CENT. W. TEX. (Prices to truck transports)		
80 oct. & above	6.00 (1)	.....
72-74 oct.	4.625(1)	.....
67-69 oct.	3.875(1)	.....
62 oct. & below	3.50(1)	.....
KANSAS (For Kansas destinations only)		
72-74 oct.	4.8125– 5.125	4.8125– 5.125
63-66 oct.	4.4375– 4.75	4.4375– 4.75
60 oct. & below	4.0625– 4.375	4.0625– 4.375

Prices Effective	Nov. 25	Nov. 18
ARK. (FOB Ark. plant of one refiner, for shipment to Ark. & La.)		
72-74 oct.	4.625	4.625
70-72 oct.	4.50	4.50
60 oct. & below	4.125	4.125
WESTERN PENNA. (Motor gasoline.		
Bradford-Warren:		
74-76 oct. (L-3)	6.00	6.00
72-73 oct. (L-3)	5.75(2)	5.75(2)
Other districts:		
74-76 oct. (L-3)	5.75 – 6.00	5.75 – 6.00
72-73 oct. (L-3)	.....	.....
Naphtha		
Untreated naphtha	5.50 – 5.75	5.50 – 5.75
Stoddard Solvent	6.00 – 6.25	6.00 – 6.25
CENTRAL MICHIGAN (f)		
U.S. Motor: (Oct. L-3)		
72-74 oct.	6.25 – 6.75	6.25 – 7.00
67-69 oct.	5.50 – 6.25	5.50 – 6.25
Str.-Run Gasoline	(g)4.25–5.00	(g) 4.25–5.00
OHIO (S. O. Ohio quotations or statewide delivery and subject to exceptions for local price disturbances)		
72-74 oct.	7.125	7.125
CALIFORNIA U.S. Motor:		
58-61 grav., 375-400 e.p., 65 oct. & above	5.50 – 6.50	5.25 – 6.50
54-58 grav., for outside state shipment	5.00 – 6.00	4.50 – 5.50
54-58 grav., for instate shipment	4.50 – 5.50	4.25 – 5.25

Kerosine, Gas & Fuel Oils

Prices Effective	Nov. 25	Nov. 18
OKLAHOMA		
41-43 grav. w.w.	3.875– 4.00	3.875– 4.00
42-44 grav., w.w.	4.00 – 4.125	4.00 – 4.125
Range Oil	3.50 – 3.75	3.50 – 3.75
No. 1 P.W.	3.50 – 3.75	3.50 – 3.75
No. 1 straw	3.50 –3.625 (2)	3.375– 3.50
No. 2 straw	3.375– 3.625	3.375– 3.625
No. 2 dark	3.375(1)	3.375(1)
U.G.I. gas oil	3.25 (2)	3.25(2)
No. 3 fuel	3.375(2)	3.25–3.375(2)
No. 6 fuel	$0.60(1)	$0.55(1)
14-16 fuel	$0.85(1)	$0.85(1)
MID-WESTERN		
41-43 grav. w.w.	3.875– 4.125	3.875– 4.125
42-44 grav. w.w.	4.00 – 4.375	4.00 – 4.375
Range Oil	3.625–3.75(2)	3.625(2)
No. 1 p.w.	3.50 – 3.75	3.50 – 3.75
No. 1 straw	.....	.....
No. 2 straw	3.375– 3.50	3.375– 3.50
No. 3	3.125– 3.375	3.125– 3.375
No. 5	$0.75(1)	$0.75(1)
No. 6	$0.50(1)	$0.50(1)
N. TEX. (For shpt. to Tex. & N. M dest'ns.		
41 43 grav w.w.	3.75–4.75	3.50 – 4.75
No. 1 P.W.	3.50–3.75 (2)	3.50–3.75 (2)
KANSAS (For Kansas destinations only)		
41-43 grav. w.w.	4.25(1)	4.25(1)
42-44 gravity w.w.	4.125– 4.375	4.125– 4.375
No. 1 p.w.	3.75 – 3.875	3.75 – 3.875
No. 6 fuel	$0.60-$0.625(2)	$0.60-$0.625 (2)

(f) Prices FOB Central Michigan refinery group basis for shipment within Michigan; shipments may originate at plants outside Centra l group. (g) Excluding Detroit shipment. (h) For shipment to Ark. points only. (u) One refiner reports quoting "4 to 4.50c" for 72-74 oct., the lower price applying only to shipment into restricted competitive areas.

REFINERY PRICES (Continued)

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

Kerosine, Gas & Fuel Oil

(Continued)

Prices Effective	Nov. 25	Nov. 18
ARK. (F.o.b. Ark. plant of one refiner for shipment to Ark. and La.)		
41-43 grav. w.w.	4.25	4.25
No. 1	3.625	3.625
No. 2	3.50	3.50
28-32 zero fuel	3.375	3.375
Tractor Fuel	(h)4.25	(h)4.25
WESTERN PENNA.		
Bradford-Warren:		
45 grav. w.w.	5.125–5.375	5.125–5.375
46 grav. w.w.	5.375(1)	5.375(1)
No. 1 fuel	5.00 – 5.125	5.00(2)
No. 2 "	5.00 – 5.125	5.00 – 5.25
No. 3 "	4.875–5.125 (2)	4.875(1)
36-40 gravity	5.00 – 5.25	5.00 – 5.25
Other districts:		
45 grav. w.w.	5.00	4.875–5.00
46 grav. w.w.	5.00 – 5.125	4.875–5.125
47 grav. w.w.	5.125–5.25	5.00 – 5.25
No. 1 fuel	4.625–4.75	4.625–4.75
No. 2 "	4.50 – 4.875	4.50 – 4.625
No. 3 "	4.50 – 5.00	4.50(2)
36-40 gravity (1)	4.25–5.00 (1)	4.25–4.375
CENTRAL MICHIGAN (f)		
47-49 gravity w.w.	5.00 – 5.25	4.75 – 5.05
P.W. Distillate	5.00	4.75 – 5.00
No. 3 gas oil, Str.	4.50 – 4.75	4.25 – 4.50
U.G.I gas oil	3.75 – 4.00	3.50 – 4.00
Fuel Oils (Vis. at 100):		
500-700 Vis.		3.00(1)
300-500 Vis.	2.75(1)	2.75–3.25 (2)
100-300 Vis.		3.25–3.50 (1)
CALIFORNIA		
40-43 grav. w.w.	4.50 – 6.00	4.50 – 6.00
San Joaquin Valley:		
Heavy fuel	$0.45 –$0.65	$0.45 –$0.70
Light fuel	$0.55 –$0.75	$0.55 –$0.75
Diesel fuel	2.75 – 4.00	2.75 – 4.00
Stove dist.	2.75 – 5.00	2.75 – 5.00
Los Angeles:		
Heavy fuel	$0.45 –$0.65	$0.45 –$0.70
Light fuel	$0.55 –$0.75	$0.55 –$0.75
Diesel fuel	2.75 – 4.00	2.75 – 4.00
Stove dist.	2.75 – 4.00	2.75 – 4.00
San Francisco:		
Heavy fuel	$0.80	$0.80
Light fuel	$0.90	$0.90
Diesel fuel	4.50	4.50
Stove dist.	5.50	5.50

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec 100.

Lubricating Oils

WESTERN PENNA.

Prices are given by Penna. refiners as their quotations to jobbing and compounding trade only. Prices to other refiners generally are lower.

Viscous Neutrals — No. 3 col. Vis. at 70° F.

200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.		24.50 (1)
10 p.t.		23.50 (1)
15 p.t.		22.50 (1)
25 p.t.	21.00–22.00	21.00–22.00
150 Vis. (143 at 100) 400-405 fl.		
0 p.t.		22.50 (1)
10 p.t.		21.50 (1)
15 p.t.		20.50 (1)
25 p.t.	19.00	19.00
Cylinder Stocks		
Brt. stk., 145-155 vis. at 210°, 540-550 fl., No. 8 col.		
10 p.t.	15.50(1)	14.50 (1)
15 p.t.	14.50(1)	13.50 (1)
25 p.t.	12.00 –14.00	12.00 –14.00
600 S.R. filterable	7.00 – 8.00	7.00 – 7.50
650 S.R.	8.00 – 9.00	8.00 – 8.50
600 fl.	9.00 – 9.50	9.00 – 9.50
630 fl.	11.00 –11.50	11.00 –11.50

MID-CONTINENT (F.o.b. Tulsa)

Neutral Oils (Vis. at 100° F. 0 to 10 P.P.)

Pale Oils:

Vis. Color		
60-85—No. 2	5.25 – 5.75	5.25 – 5.75
86-110—No. 2	5.25 – 6.25	5.25 – 6.25
150—No. 3	8.00 –10.25	8.00 –10.25
180—No. 3	8.50 –10.50	8.50 –10.50
200—No. 3	8.50 –11.00	8.50 –11.00
250—No. 3	10.00 –12.00	10.00 –12.00
280—No. 3	10.50 –13.75	10.50 –13.75
300—No. 3	11.50 –14.25	11.50 –14.25

Lubricating Oils (Cont'd)

Prices Effective	Nov. 25	Nov. 18
Red Oils:		
180—No. 5	8.50– 9.00 (2)	8.50–9.00 (2)
200—No. 5	8.50–10.00 (2)	8.50–10.00 (2)
280—No. 5	11.50–12.00 (2)	11.50–12.00 (2)
300—No. 5	11.00 –12.00	11.00 –12.00

Note: Viscous Neutrals, 15-25 p.p. generally are quoted 0.5c under 0-10 p.p. oils. Non-viscous oils, 15-25 p.p., generally are quoted 0.25c under 0-10 p.p. oils.

Bright Stock—Vis. at 210°

200 Vis. D	18.00(1)	18.00 (1)
150-160 Vis. D:		
0 to 10 p.p.	13.50 –16.00	13.50 –16.00
10 to 25 p.p.	13.00 –15.50	13.00 –15.50
25 to 40 p.p.	12.50–15.00 (2)	12.50–15.00 (2)
150-160 vis. E	12.50 –15.00	12.50 –15.00
120 Vis. D:		
0 to 10 p.p.	12.50 –15.25	12.50 –15.25
25 to 40 p.p.	14.375(1)	14.375 (1)
600 S.R. Dark Green	7.00(2)	7.00 (2)
600 S.R. Olive Green	8.00 – 9.50	8.00 – 9.50
631 S.R.	12.00(1)	12.00 (1)
Black Oil	4.00 –5.50 (2)	4.00–5.50 (2)

SOUTH TEXAS Neutral Oils

Vis. Color		
Pale Oils: (*Vis. at 100°F*)		
100 No. 1½-2½	5.25 – 5.50	5.25 – 5.50
200 No. 2-3	7.25	7.25
300 No. 2-3	7.75	7.75
500 No. 2½-3½	8.50	8.50
750 No. 3-4	8.75	8.75
1200 No. 3-	8.875	8.875
2000 No. 4	9.00	9.00
Red Oils:		
200 No. 5-6	7.25	7.25
300 No. 5-6	7.75	7.75
500 No. 5-6	8.50	8.50
750 No. 5-6	8.75	8.75
1200 No. 5-6	8.875	8.875
2000 No. 5-6	9.00	9.00

CHICAGO (From Mid-Continent p.l. crude

Neutra Oils (Vis. at 100° F. 0 to 10 p.p.)

Pale Oils

Vis. Color		
60-85—No. 2	7.25	7.25
86-110—No. 2	7.25	7.25
150—No. 3	8.50	8.50
180—No. 3	9.50	9.50
200—No. 3	10.00	10.00
250—No. 3	11.00	11.00
Red Oils:		
180—No. 5	9.50	9.50
200—No. 5	9.50	9.50
250—No. 5	11.00	11.00
280—No. 5	12.00	12.00
300—No. 5	12.00	12.00

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower.

Unfiltered Steam Refined: (Viscosity at 210°)

140	8.75	8.75
160	9.50	9.50
200	10.50	10.50
Bright stocks, 160 vis. at 210. No. 8 color:		
0 to 10 p.p.	15.00	15.00
15 to 25 p.p.	14.00	14.00
30 to 40 p.p.	13.50	13.50
E filtered Cyl. Stock	12.50	12.50

Note: To obtain prices delivered in Chicago add 0.25c per gal.

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

FOB GROUP 3		
Grade 26-70	(k)2.25	(k) 2.25
FOB BRECKENRIDGE		
Grade 26-70	(i)2.00	(k) 2.00
CALIFORNIA (FOB plants in Los Angeles basin)		
75-85, 350-375 e.p. for blending	4.75 – 5.00	4.75 – 5.00

Naphtha and Solvent

Prices Effective (FOB Group 3)	Nov. 25	Nov. 18
Stoddard solvent	5.875	5.875
Cleaners' naphtha	6.375	6.375
V. M. & P. naphtha	6.375	6.375
Mineral spirits	5.375	5.375
Rubber solvent	6.375	6.375
Lacquer diluent	6.625– 7.375	6.625– 7.375
Benzol Diluent	7.875– 8.375	7.875– 8.375

Wax

White Crude Scale:

WESTERN PENNA. (Bbls., C.L., N. Y.)		
122-124 A.m.p.	2.85 – 3.00	2.85 – 3.00
124-126 A.m.p.	2.85 – 3.00	2.85 – 3.00
OKLAHOMA (Bbls. or burlap bags, C.L.)		
124-6 AMP	3.00(1)	3.00 (1)
131-3 AMP	3.25(1)	3.25 (1)

CHICAGO (FOB Chicago district refinery of one refiner, in bags or slabs loose, carloads. Melting points are EMP (ASTM) methods; add 3° F. to convert into AMP.)

Fully refined:		
122-124 (bags only)	5.60	5.60
125-127	5.60	5.60
127-129	5.85	5.85
130-132	6.15	6.15
132-134	6.40	6.40
135-137	7.15	7.15

Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c per lb. less.)		
Snow White	5.125– 6.125	5.125– 6.125
Lily White	4.375– 5.125	4.375– 5.125
Cream White	3.375– 4.125	3.375– 4.125
Light Amber	2.625– 3.00	2.625– 3.00
Amber	2.375– 2.875	2.375– 2.875
Red	2.125– 2.625	2.125– 2.625

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

	Gasoline-Kerosine		Distillate-Gas Oil-Fuel Oil	
	Cents per Cwt.	Cents per gal. 6.6 lbs.	Cents per Cwt.	Cents per gal. 7.4 lbs.
Chicago, Ill.	40	2.640	32	2.368
Decatur, Ill.	39	2.574	31	2.294
Joliet, Ill.	40	2.640	32	2.368
Peoria, Ill.	39	2.574	31	2.294
Quincy, Ill.	36	2.376	29	2.146
Indianapolis, Ind.	48	3.168	39	2.886
Evansville, Ind.	46	3.036	37	2.738
South Bend, Ind.	49	3.234	**42	**3.108
Detroit, Mich.	64	4.224	51	3.774
Grand Rapids, Mich.	58.5	3.861	**50	**3.700
Saginaw, Mich.	66	4.356	53	3.922
Green Bay, Wis.	51	3.366	41	3.034
Milwaukee, Wis.	43	2.838	34.5	2.553
LaCrosse, Wis.	46	3.036	37	2.738
Minneapolis-St. Paul	46	3.036	37	2.738
Duluth, Minn.	52	3.432	41.5	3.071
Mankato, Minn.	46	3.036	37	2.738
Des Moines, Ia.	36	2.376	29	2.146
Davenport, Ia.	39	2.574	31	2.294
Mason City, Ia.	42	2.772	33.5	2.479
St. Louis, Mo.	33	2.178	26.5	1.961
Kansas City, Mo.	28	1.848	22.5	1.665
St. Joseph, Mo.	28	1.848	22.5	1.665
Fargo, N. D.	63	4.158	50.5	3.737
Minot, N. D.	83	5.478	66.5	4.921
Huron, S. D.	53	3.498	42.5	3.145
Wichita				
From Ponca City	7.5	*0.495	7.5	†0.555
From Tulsa	12.5	*0.825	12.5	†0.925
From Cushing	11	*0.726	11	†0.814

*This rate also includes distillate rate at 6.6 lbs. per gal.

**This rate applies only to residual fuel and gas oil.

†This rate is exclusive of distillate which is based on 6.6 lbs. per gal. from Ponca City, Tulsa and Cushing, Okla., to Wichita. Includes only gas oil and fuel oil.

NOTE: There is no Group 3 rate to Wichita, Kans.

(f) Prices FOB Central Michigan refinery group basis for shipment within Michigan: shipments may originate at plants outside Central group. (g) Excluding Detroit shipment. (h) For shipment to Ark. points only. (i) Quotations. (j) Sale. (k) Sales. (l) Pittsburgh district prices excluded.

SEABOARD PRICES EXPORT AND COASTWISE

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

Atlantic Coast

(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators, FOB their terminals)—Prices Effective Nov. 25

MOTOR GASOLINE

District:	Min. 80 Oct. '39 Research (Max. 2 cc. Lead)	72-74 Oct. (ASTM)	68-70 Oct. (ASTM)	65-66 Oct. (ASTM)	60-64 Oct. (ASTM)
N. Y. Harb.	5.75 (2)	5.00 – 6.50	5.00 – 5.50	5.00–5.50 (2)	.....
N. Y. Harb., barges	5.75 – 7.00	4.75 – 6.50	4.75 (2)	4.75–5.50 (2)	.....
Albany	5.70 (1)	5.80	.....	.....	.....
Philadelphia	5.75 – 7.25	5.25 – 7.00	5.50 – 6.75	.....	6.50 (1)
Baltimore	5.75 – 7.25	5.50 – 6.75	5.50–6.00 (2)	5.50 (1)	.....
Norfolk	5.75 – 7.25	5.50 – 6.75	6.00 – 6.50	5.50 (1)	.....
Wilm'ton	7.00 – 7.25	5.75 – 6.55	6.00 – 6.50	5.50 (1)	6.25 (1)
Char'ston	6.25–7.05 (2)	5.75 – 6.60	5.875–6.50 (2)	5.50 (1)	.....
Savannah	6.25 6.50 (1)	6.00 – 6.50	5.875–6.375	.....	6.00 (1)
Jacksonville	6.25–6.50 (1)	6.00 – 6.50	5.875– 6.25	.....	6.00 (1)
Miami	6.25–6.50 (1)	6.25 (1)	5.875–6.125 (2)	.....	.....
Tampa	6.25–6.50 (1)	6.25 (2)	5.875– 6.25	.....	.....
Pensacola	6.00–6.25 (1)	.....	5.50–5.75 (1)	.....	.....
Mobile	5.75–6.00 (1)	5.75 (2)	5.375–5.625 (2)	.....	.....
Portland	5.70 (2)	5.70 – 5.90	5.90 (1)	.....	.....
Boston	5.70 (2)	5.25 – 5.90	5.50 (1)	5.25 – 5.50	.....
Providence	5.60 (2)	5.70 – 6.50	.....	.....	.....

FUEL OILS

	KEROSINE and/or NO. 1 FUEL	No. 2	No. 3	No. 5	No. 6
N. Y. Harb.	5.10 – 5.50	4.50	4.50	$1.45 –$1.55	$1.15 –$1.25
N. Y. Harb., barges	5.00 – 5.40	4.40	4.40	.....	.....
Albany	5.20	4.60	4.60 (1)	$1.85 (1)	$1.45 (1)
Philadelphia	5.00 – 5.50	4.50	4.50	$1.37 –$1.47	$1.15 –$1.25
Baltimore	4.75 – 5.50	4.25 – 4.50	4.25 – 4.50	$1.37 (1)	$1.15 –$1.25
Norfolk	4.75 – 5.50	4.25 – 4.50	4.25 – 4.50	.....	$1.25 (2)
Wilmington	4.75 – 5.375	4.25 – 4.50	.....	.....	.....
Charleston	5.00 – 5.50	4.25 –4.50 (2)	.....	.....	$1.20 (2)
Savannah	5.00 – 5.25	.....	.....	.....	$1.20 (1)
Jacksonville	5.00 – 5.25	4.25 (1)	4.25 (1)	.....	$1.20 (1)
Miami	5.125–5.25 (2)	.....	.....	.....	.....
Tampa	5.00 – 5.25	4.25 (1)	.....	.....	$1.15 (1)
Pensacola	4.875– 5.00 (1)	.....	.....	.....	.....
Mobile	4.875– 5.00	.....	.....	.....	.....
Portland	5.30	4.70	4.70	$1.85 (1)	$1.25 –$1.45
Boston	5.20	4.60	4.60	$1.55–$1.65 (2)	$1.25
Providence	5.20	4.60	4.60	$1.50 –$1.65	$1.25

	Bunker C Fuel Ships' bunkers (Ex Lighterage)	Diesel Oil Ships' bunkers (Ex Lighterage)	Diesel Oil Shore Plants	Gas House Gas Oil 28-34 Gravity
N. Y. harbor	$1.15 –$1.25	$1.85	4.50	4.60
Albany	$1.45 (1)	$1.85	4.60	....
Philadelphia	$1.15 –$1.25	$1.85 –$1.95	....	....
Baltimore	$1.15 –$1.25	$1.85	4.00	4.00
Norfolk	$1.25	$1.785–$1.85	4.00	4.00
Charleston	$1.20	$1.785–$1.85	4.00	4.00
Savannah	$1.20 (1)	$1.785–$1.90	....	....
Jacksonville	$1.20	$1.785–$1.95	....	....
Tampa	$1.15	$1.785–$1.95	....	....
Portland	$1.25 –$1.45	$1.95	4.70	4.80
Boston	$1.25	$1.85	4.60	4.70
Providence	$1.25	$1.85	4.60	4.70

New York Export Lubes

(Penna. Products in bbls, FAS New York)

Prices Effective	Nov. 25	Nov. 18
Bright stock:		
Light, 25 p.t.	20.50 (1)	20.50 (1)
Neutral oil:		
200 3 color, 25 p.t.	.....	.....
150 3 color, 25 p.t.	25.50 (1)	25.50 (1)
600 s.r., unfilt.	16.00 (1)	16.00 (1)
650 s.r., unfilt.	17.00 (1)	17.00 (1)
600 fl. s.r.	18.00 (1)	18.00 (1)
630 fl., s.r.	20.00 (1)	20.00 (1)

Wax

(A.S.T.M. Tests. Melting points, however, are A.M.P., 3° higher than E.M.P. Export prices, FAS, c.l. Domestic prices, FOB, refr'ies., in bags, c.l., with 0.2c discount allowed for shipment in bulk, except where noted. Scale solid; fully refined slabs in bags)

Prices Effective Nov. 25

	New Orleans Export	N. Y. Domestic	N. Y. Export
Crude Scale:			
124-6 Yellow	2.85-3.00 (1)	.....	2.85-3.00 (1)
122-4 White	.....	2.85-3.00	2.85-3.00
124-6 White	2.85-3.25 (2)	2.85-3.00	2.85-3.00
Fully Refined:			
123-5	.....	5.60	5.60 (2)
125-7	5.60 (1)	5.60	5.60
128-30	6.15 (1)	5.60–5.70 (i)	5.60
130-2	6.15 (1)	5.85 (i)	5.85
133-5	6.40 (1)	6.15 (i)	6.15
135-7	7.15 (1)	6.40 (i)	6.40
108-11 White Match	....	....	3.25 (l&j)

Naphtha

Prices Effective Nov. 25	V.M.&P. Naphtha	Mineral Spirits
Baltimore	9.50	8.00
New York Harbor	8.80 – 9.50	8.00 – 8.50
Philadelphia district	10.00	8.00 – 9.00
Boston	9.00	8.75 – 9.25
Providence	9.00	8.75
†Ohio points, delivered	8.75	*8.25

*This is on rubber solvent.

†Ohio prices are those of S. O. Ohio. Its prices for D.C. naphtha, special Varnolene, Varnolene and Sohio Solvent are same as for V.M.&P.

Pacific Export

(Quotations at seaboard, Los Angeles, cargo lots, except where otherwise noted.)

Prices Effective	Nov. 25	Nov. 18
375 e.p. blend, 70 oct.	4.50 – 5.625	4.50 – 5.625
390 e.p. blend, 68 oct.	4.375– 5.50	4.375– 5.50
390 e.p. blend, 66 oct.	4.375– 5.375	4.375– 5.375
400 e.p. blend, 65 oct. min.	4.25 – 5.25	4.25 – 5.25
U. S. Motor, under 65 octane	4.25 – 5.125	4.25 – 5.125
38-40 grav. w.w kero., 150 fire point	4.50 – 5.00	4.50 – 5.00
41-43 grav., w.w. kero.	4.75 – 5.00	4.75 – 5.00
44 grav., w.w. kero	5.00 – 5.50	5.00 – 5.50
Diesel fuel, 24 & above	$1.25 –$1.30	$1.25 –$1.30
Diesel fuel, under 24	$1.15 –$1.25	$1.15 –$1.25
30-34 grav. diesel (gas oil) Pac. Spec. 200	$1.25 –$1.35	$1.25 –$1.35
Grade C fuel, Pac. Spec. 400	$0.60 –$0.65	$0.60 –$0.65
In Ships' Bunkers, or deep tank lots:		
Diesel fuel, Pac. Spec. 200	$1.35 –$1.45	$1.35 –$1.45
Grade C fuel, Pac. Spec. 400	$0.60 –$0.75	$0.60 –$0.75

Pacific Export (Cont'd)

Prices Effective	Nov. 25	Nov. 18
Cased Goods: (Per case)		
U. S. M.	$1.35 –$1.45	$1.35 –$1.45
375-400 e.p. blend, 65 oct. & above	$1.50 –$1.60	$1.50 –$1.60
400 e.p. blend, under 65 oct.	$1.40 –$1.50	$1.40 –$1.50
40-43 grav. w.w. kero., 150 fire point	$1.30 –$1.40	$1.30 –$1.40
Kero., p.w.	$1.25 –$1.35	$1.25 –$1.35

Tanker Rates

(Approximate rates. Cents per bbl.)

	Last Paid	Owners Ask
Gulf-N. Atlantic: (not E. of N.Y.)		
Hvy. Crude & fuel, (10 to 19.9 gravity)	48	..
Light Crude, (30 grav. or Lighter)	42	..
Gasoline	50	..
Kerosine	53	..
No. 2 Fuel	56	..

Gulf Coast

(Prices for sales made or firm offers reliably reported for sales pending in cargoes FOB ship at Gulf, for minimum of 20,000 bbls. Prices are by refiners only to other refiners, export agents, or to large tanker terminal operators at the customary trade specifications noted.)

Prices Effective Nov. 25

Motor Gasoline Domestic	
Min. 80 oct., '39 Research, max. 2 cc. lead	4.00 – 5.00
60-62, Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	3.75 – 4.75
70 oct. unleaded "	4.25
68 oct. " "	3.75 – 4.75
65 oct. " "	3.625– 4.625
60 oct. " "	3.625– 4.50
41-43 w.w. kerosine	3.875– 4.00
No. 2 fuel	3.25 – 3.75
Gas Oil—Less than ½ of 1% sulfur	
Below 43 diesel index	3.125– 3.25
43-47 " "	3.125– 3.375
48-52 " "	3.125– 3.625
53-57 " "	3.50
58 & above diesel index	3.75
Diesel Oil, ships' bunkers (ex-lighterage)	$1.50 –$1.70
Bunker C, " " "	$0.80 –$0.90
Bunker C, cargoes	$0.80 –$0.85
Motor Gasoline Export	
60-62 Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	3.75 – 4.75
70 oct. unleaded "	4.25
68 oct. " "	3.75 – 4.75
65 oct. " "	3.625– 4.625
60 oct. " "	3.625– 4.50
61-63 Gravity, Max. 390 e.p.	
72-74 oct. leaded (ASTM)	4.25
60 oct. unleaded "	4.00
64-66 Gravity, Max. 375 e.p.	
72-74 oct. leaded (ASTM)	4.25
60 oct. unleaded "	4.00
41-43 w.w. kerosine	3.875– 4.00
Gas Oil—Less than ½ of 1% sulfur	
Below 43 diesel index	3.125– 3.25
43-47 " "	3.125– 3.375
48-52 " "	3.125– 3.625
53-57 " "	3.50
58 & above diesel index	3.75

MID-CONTINENT LUBES

(At Gulf; in packages, FAS.; in bulk FOB terminals)

Nov. 25

	New Steel Drums	Bulk
200 vis. D. 210 brt. stock	25.50–25.80 (2)	19.80 (2)
150 vis. D 210 brt. stock 0-10 p.p.	21.50–21.80 (2)	15.80 (2)
10-25 p.p.	21.00 (1)	15.30 (1)
100 vis. D 210 brt. stock 0-10 p.p.	21.00 (1)	15.30 (1)
10-25 p.p.	20.50 (1)	14.80 (1)
200 vis. No. 3 col. neutral: 0-10 p.p.	17.00 (1)	11.30 (1)

SOUTH TEXAS LUBES

(Vis. at 100°, c. t. 0, blk exprt. shp., FOB terminals)

Unfiltered Pale Oils: Vis. Color	Nov. 25	Nov. 18
100 No. 3	6.00	6.00
200 No. 3	7.50	7.50
300 No. 3	8.00	8.00
500 No. 3½	9.00	9.00
750 No. 4	9.50	9.50
1200 No. 4	10.00 –11.00	10.00 –11.00
2000 No. 4	10.25	10.25
Red Oils:		
Vis. Color		
100 No. 5-6	6.00	6.00
200 No. 5-6	7.50	7.50
300 No. 5-6	8.00	8.00
500 No. 5-6	9.00	9.00
750 No. 5-6	9.50	9.50
1200 No. 5-6	10.00 –11.00	10.00 –11.00
2000 No. 5-6	10.25	10.25

(i) Shipments in bags or in bulk. (j) Shipment in tight barrels.

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see NPN for Feb. 21, 1940. These prices in effect Nov. 25, 1940 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Esso (*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
*Atlantic City, N. J.	6.5	8.1	4.5	7.9
*Newark, N. J.	6.5	8.1	4.5	7.9
Annapolis, Md.	7.35	8.85	5.5	9.5
Baltimore, Md.	6.75	8.25	5.5	8.5
Cumberland, Md.	8.15	9.65	5.5	10
Washington, D. C.	7	8.5	3.5	9.5
Danville, Va.	7.95	10.45	6.5	11
Norfolk, Va.	6.75	9.25	6.5	10.5
Petersburg, Va.	7.05	9.55	6.5	11.2
Richmond, Va.	7.05	9.55	6.5	10.5
Roanoke, Va.	8.25	10.75	6.5	11
Charleston, W. Va.	7.55	10.05	6.5	12.6
Parkersburg, W. Va.	6.85	9.35	6.5	11.2
Wheeling, W. Va.	7.85	10.35	6.5	11.8
Charlotte, N. C.	8.9	7.5	7.5	9.8
Hickory, N. C.	9.45	10.95	7.5	10.3
Mt. Airy, N. C.	9.3	8.5	7.5	10.2
Raleigh, N. C.	8.65	8.5	7.5	9.5
Salisbury, N. C.	8.95	7	7.5	9.9
Charleston, S. C.	6.75	9.25	7.5	9.25
Columbia, S. C.	7.6	10.1	7.5	11.5
Spartanburg, S. C.	8.3	10.8	7.5	12.2

	Mineral Spirits T.W.	V.M.P.& T.W.
Newark, N. J.	11.5	15.5
Baltimore, Md.	15.5	....
Washington, D. C.	15	....

Fuel Oils—T.W.	No. 1	No. 2	No. 3
Atlantic City, N. J.	7.9	6.5	6.5
Newark	7.9	6.5	6.5
Annapolis, Md.	....	6.5	...
Baltimore	7.25	6.5	6
Washington, D. C.	7.5	6.75	6.75
Norfolk, Va.	7	6	6
Petersburg	7.25	6.25	...
Richmond	7.25	6.25	6.25
Charlotte, N. C.	8.8	7.75	...
Hickory	....	8	...
Raleigh	8.5	7.50	...
Charleston, S. C.	8	6.5	...
Columbia	9	7.5	...
Spartanburg	9.8	8	...

*Effective Sept. 19, 1940, minimum retail resale price of 10.4c posted thru New Jersey.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w. price, thru territory, except New Jersey. While above posted prices continue at Atlantic City and Newark, dealers will pay net price of 7.5c per gal. for Esso: dealers having pumps marked only Esso, Esso Extra and Standard White gasoline will pay 7c per gal. for Esso.

Kerosine—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

Naphthas—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price; Baltimore, 2c off on 25 to 100 gals. and 3c on over 100 gals.; Washington, 2c off to contract buyers.

Socony-Vacuum Oil Co., Inc.

Socony Mobilgas (*Regular Grade*)

	Com. T.C.	Com. Cons. T.W.	Div. Dlr. T.W.	Gaso-line Taxes
New York City:				
Manhattan & Bronx	6.4	6.1	7	*5.5
Kings & Queens	6.4	6.1	7	*5.5
Richmond	6.4	6.1	7.2	*5.5
Albany, N. Y.	6.5	6.5	7	5.5
Binghamton, N. Y.	7.8	7.8	8.8	5.5
Buffalo, N. Y.	6.9	6.9	7.9	5.5
Jamestown, N. Y.	6.7	6.7	7.6	5.5
Plattsburg, N. Y.	6.7	7.4	8.4	5.5
Rochester, N. Y.	7.3	7.3	8.3	5.5
Syracuse, N. Y.	7	7	6.2	5.5
Bridgeport, Conn.	6.4	6.8	6.5	4.5
Danbury, Conn.	6.9	7	7.8	4.5
Hartford, Conn.	6.7	7	7	4.5
New Haven, Conn.	6.4	6.5	6.6	4.5
Bangor, Me.	6.3	7.3	8.3	5.5
Portland, Me.	5.9	7.4	7.9	5.5
Boston, Mass.	5.9	5.9	6.9	4.5
Concord, N. H.	7.1	7.7	8.7	5.5
Lancaster, N. H.	7.9	8.7	9.7	5.5
Manchester, N. H.	7	7.4	7.1	5.5
Providence, R. I.	5.9	6.2	7.4	4.5
Burlington, Vt.	7	7.4	6.8	5.5
Rutland, Vt.	7.1	7.6	6.8	5.5

	Mineral Spirits T.W.	V.M.&P. T.W.
Buffalo, N. Y.	9.4	10.1
†New York City	8.2	8.8
Rochester, N. Y.	10.2	10.9
Syracuse, N. Y.	11.1	11.8
Boston, Mass.	11	11
Bridgeport, Conn.	11.5	12
Hartford, Conn.	11	11.5
Providence, R. I.	11	12

	Kero-sine Yard	Kero-sine TW	Mobil-fuel Diesel TC	Mobil-fuel Diesel TW	Mobil-heat Fuel Yard	Mobil-heat Fuel TW
New York:						
Manhat'n&Bronx	...	7.9	...	...	...	6.4
Kings & Queens	5.4	7.9	...	...	...	6.4
Richmond	5.2	7.9	...	...	...	6.4
Albany	5.4	7.6	4.8	6.8	4.8	6.5
Binghamton	6.7	9	...	...	...	...
Buffalo	5.9	7.7	5.6	7.6	...	...
Jamestown	5.6	7.6	...	...	...	...
Plattsburg	6.2	8.2	...	...	...	...
Rochester	6.3	8.3	...	...	5.7	7.0
Syracuse	6.2	8.7	...	...	...	...
Conn:						
Bridgeport	5.8	7.8	...	...	...	...
Danbury	...	8.3	...	...	...	...
Hartford	5.5	7.5	...	7.2	5	6.7
New Haven	5.6	7.3	...	...	5.2	6.7
Maine:						
Bangor	6.1	8.1	...	...	5.5	7.0
Portland	5.7	8	5.1	7.1	...	...
Mass.:						
Boston	5.6	8	5	7	5	6.6
N. H.:						
Concord	6.6	8.6	...	...	...	...
Lancaster	7.6	9.6	...	...	...	...
Manchester	...	8.8	...	...	5.8	7.3
R. I.:						
Providence	5.6	8	5	7	5	6.5
Vermont:						
Burlington	6.2	8.2	...	...	5.6	7.2
Rutland	6.6	8.6	...	...	...	...

*Plus 2% city sales tax computed at time of each sale.

†Prices apply to consumers only in quantities over 1000 gals. annually; for quantities under 1000 gals. annually, add 0.5c per gal.

Discounts: Gasoline—To undivided dealers, 0.5c less than divided dealer t.w. Diesel—On t.w. deliveries, 0.5c for at least 400 gals.; 1c for full tank truck.

Atlantic Refining

Atlantic White Flash Gasoline (*Regular Grade*)

	Commer-cial T.C.	Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
Philadelphia, Pa.	7	8	5.5	10
Pittsburgh	7.5	9.5	5.5	10.5
Allentown	7.5	9	5.5	10.5
Erie	7	9.5	5.5	10
Scranton	6.4	6.9	5.5	10.5
Altoona	7.5	9.5	5.5	10.5
Emporium	7.5	9.5	5.5	10.5
Indiana	7.5	9.5	5.5	10.5
Uniontown	7.5	9.5	5.5	10.5
Harrisburg	7.5	9	5.5	10.5
Williamsport	7.5	9	5.5	10
Dover, Del.	...	8.5	5.5	10.5
Wilmington	...	8	5.5	10
Boston, Mass.	...	6.9	4.5	8
Springfield, Mass.	...	6.5	4.5	8.7
Worcester, Mass.	...	7.5	4.5	8.1
Fall River, Mass.	...	7.4	4.5	8.2
Hartford, Conn.	...	7	4.5	8.2
New Haven, Conn.	...	6.6	4.5	8.2
Providence, R. I.	...	7.4	4.5	8.2
Atlantic City, N. J.	...	7.5	4.5	7.7
Camden, N. J.	...	7.5	4.5	7.7
Trenton, N. J.	...	7.3	4.5	7.7
Annapolis, Md.	...	8.85	5.5	9.5
Baltimore, Md.	...	8.25	5.5	8.5
Hagerstown, Md.	...	9.35	5.5	10
Richmond, Va.	...	9.55	6.5	10.5
Wilmington, N. C.	...	9.35	7.5	8.8
Brunswick, Ga.	...	8	7.5	*9
Jacksonville, Fla.	...	7.5	8.5	10

	Mineral Spirits T.W.†	V.M.&P. T.W.†
Philadelphia, Pa.	12	14.5
Lancaster, Pa.	13.5	16
Pittsburgh, Pa.	14.5	14.5

Fuel Oils—T.W.	1	2	3	5	6
Phila., Pa.	8	6.5	6.5	4.25	3.50
Allentown, Pa.	8.5	6.5	6.5	....	....
Wilmington, Del.	8.00	6.5	6.5	....	....
Springfield, Mass.	8.7	7	7	....	....
Worcester, Mass.	8.1	6.8	6.8	....	....
Hartford, Conn.	8.2	6.7	6.7	....	....

*Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

‡Gasoline—to undivided dealers, 0.5c off dealer t.w., except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals. or more at one time.

Naphthas—Philadelphia, 200 gals. or more at one time, 2c off, Lancaster, contract buyers taking 1000 gals. or more per year, one drum up, 2c off; non-contract buyers, 200 gals. or more at one time, 2c off. Pittsburgh, 500 gals. or more at one time, 2c off.

S. O. Ohio††

***Sohio X-70 Gasoline (*Regular Grade*)**

	Con-sumer T.W	**Re-sellers	‡S.S.	Gaso-line Taxes	†Kero-sine T.W.
Ohio, Statewide	10.5	9	12.5	5.5	8
Akron	10.5	7.5	9.5	5.5	8
Cincinnati	10.5	7.5	10	5.5	8
Cleveland	10.5	8	11	5.5	8
Columbus	10.5	8	11	5.5	8
Dayton	10.5	7.5	10	5.5	8
Marietta	10.5	8	10.5	5.5	8
Portsmouth	10.5	8.5	11.5	5.5	8
Toledo	10.5	7.5	10	5.5	8
Youngstown	10.5	8	11	5.5	7.5

Esso Aviation Gasoline—Thru Ohio

	Consumer T.W.	Gasoline Taxes
74 octane	15.5	5.5
80 octane	16.5	5.5
87 octane	17.5	5.5

†Naphthas—Statewide	T.W
S.R. Solvent	12.75
D.C. Naphtha	13.25
V.M.&P. Naphtha	13.25
Varnolene	13.25
Sohio Solvent	13.25

Fuel Oils—T.W.	No. 1	No. 2	No. 3	No. 4
Ohio, Statewide	8.0	8.0	7.5	....
Toledo	7.5	7.5	7.0	....
Cleveland	9.5	9.5	9.0	6.75

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

**Except authorized agents.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1.5c federal & 4c state tax.

‡Prices at company-operated stations.

††Statewide prices are subject to exceptions other than those shown.

Discounts:

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

Fuel Oils—Statewide and Toledo prices are for t.w. deliveries of less than 50 gals.; t.w. and drum deliveries of over 50 gals. are 0.5c less. Cleveland Nos. 1, 2, and 3 prices are for bulk deliveries of 5 to 99 gals.; 100 gals. and over are 2c less. Cleveland No. 4 price is for full compartment hose dump only.

Naphthas—to contract consumers off t.w. prices; 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c.

S. O. Kentucky

Crown Gasoline (*Regular*)
Standard (*Third Grade*)

	†Net Dealer Crown	Standard	Gaso-line Taxes	Kero-sine T.W.
Covington, Ky.	7	6.5	6.5	9
Lexington, Ky.	9	7	6.5	9
Louisville, Ky.	8.5	6.5	6.5	8.5
Paducah, Ky.	6.5	6	6.5	8.5
Jackson, Miss.	8.5	7.5	7.5	*8.5
Vicksburg, Miss.	8	7	7.5	*8
Birmingham, Ala.	8	7	*8.5	9
Mobile, Ala.	6	5	*9.5	8
Montgomery, Ala.	8.5	7.5	*9.5	*9
Atlanta, Ga.	7.5	6.5	7.5	*7
Augusta, Ga.	9	8.5	7.5	*8.5
Macon, Ga.	7.5	6.5	7.5	*8
Savannah, Ga.	8	7	7.5	*8
Jacksonville, Fla.	7.5	6.5	8.5	8
Miami, Fla.	7.5	6.5	8.5	8
Pensacola, Fla.	7.5	6.5	*9.5	8
Tampa, Fla.	7.5	6.5	8.5	8

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax, Mississippi 0.5c, not included in above prices.

†Consumer t.w. prices are same as net dealer prices.

S. O. Indiana

Red Crown (*Regular Grade*)
Stanolind (*Third Grade*)

	Red Dealer Prices Crown Cons. T.W.	Red Crown	Stano-lind	Gaso-line Taxes	Kero-sine T.W.
Chicago, Ill.	11.1	8.1	6.4	4.5	10
Decatur, Ill.	10.1	8.6	6.2	4.5	9.5
Joliet, Ill.	11.1	9.6	6.7	4.5	10
Peoria, Ill.	11.1	8.7	8.1	4.5	10
Quincy, Ill.	10.9	9.4	6.2	4.5	9.8
Indianapolis, Ind.	11.3	9.3	8.9	5.5	*10
Evansville, Ind.	11.1	9.6	8	5.5	*9.8

(Continued on next page)

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see NPN for Feb. 21, 1940. These prices in effect Nov. 25, 1940 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. Indiana (Cont'd)

Red Crown (*Regular Grade*) Stanolind (*Third Grade*)

	Red Crown Cons. T.W.	Dealer Prices Red Crown	Stano-lind	Gasoline Taxes	Kerosine T.W.
South Bend, Ind.	11.3	9.8	8.8	5.5	*10
Detroit, Mich.	9.6	8.1	7.1	4.5	7.6
Grand Rapids, Mich.	9.8	8.3	8	4.5	9.1
Saginaw, Mich.	0.4	8.9	8.4	4.5	9.1
Green Bay, Wis.	11.9	10.4	8.9	5.5	10.3
Milwaukee, Wis.	11.3	9.8	9.3	5.5	10.2
La Crosse, Wis.	11.5	10	9.5	5.5	10.4
Minneapolis-St. Paul	11.5	9.7	7.3	4.5	10.4
Duluth, Minn.	11.9	10.4	9.9	4.5	10.8
Mankato, Minn.	11.5	10	8.5	4.5	9
Des Moines, Ia.	10.9	9.4	7.9	4.5	*9.8
Davenport, Ia.	11.1	9.6	8.1	4.5	*10
Mason City, Ia.	11.3	9.8	6.9	4.5	*10.2
St. Louis, Mo.	10.7	8.7	7	*4.5	9
Kansas City, Mo.	10.3	7.3	6.3	*4.5	8
St. Joseph, Mo.	10.4	8.5	7.5	*4.5	7.9
Fargo, N. D.	12.7	11.2	9	5.5	11.6
Huron, S. D.	12	10.5	10	5.5	10.9
Wichita, Kans.	9.3	7.8	5.5	4.5	7

Stanavo Aviation 73 Octane

Chicago, Ill.	14.9
Detroit, Mich.	16.5
Milwaukee, Wis.	15.1
Minneapolis, Minn.	15.3
St. Louis, Mo.	14.5
Kansas City, Mo.	14.2
Fargo, N. D.	16.5
Huron, S. D.	15.8

	Oleum Spirits	V.M.&P. Naphtha	Stanisol	*Taxes
(Prices are base prices before discounts)				
Chicago	12.7	13	12.4	4.5
Detroit	15.2	14.2	15.7	4.5
K. C., Mo.	12.9	13.9	13.4	1.5
St. Louis	13.2	14.2	12.4	1.5
Milwaukee	13.8	14.8	14.3	5.5
Minneap'ls	14	15	12.7	4.5

†Fuel Oils—T.W.	No. 1 Fuel	Stanolex Furnace
Chicago	**6.75	6.75
Indianapolis	....	*7.5
Detroit	....	6.6
Milwaukee	8.2	7.7
Minneapolis	7.5	7.5
St. Louis	7.0	6.50
Kansas City	6.8	6.8

*Taxes: In gasoline tax column are included these city taxes—Kansas City, St. Joseph, and St. Louis, 1c. Indiana kerosine and fuel oil prices are ex 4c state tax: Iowa kerosine prices are ex 3c state tax. In naphtha tax column are included 1c federal tax and state taxes.

†Prices for small-lot deliveries range up to 2c higher than above prices.

**For 400 gals. & over; 150 to 399 gals., 7.25c; 100 to 149 gals., 7.5c; 1 to 99 gals., 8.5c.

S. O. Nebraska

Standard Red Crown Gasoline (*Regular Grade*)

	T.W.	Dealer	Gasoline Taxes	Kerosine T.W.
Omaha	10.9	9.4	6.5	9.5
McCook	10.5	7.9	6.5	9
Norfolk	11	8.9	6.5	9.9
North Platte	11.3	9	6.5	10.2
Scottsbluff	10.9	8	6.5	10.8

S. O. Louisiana

Esso (*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Little Rock, Ark.	6.75	8.5	8	10
Alexandria, La.	6.25	8.75	8.5	*9.5
Baton Rouge, La.	6.25	8.75	8.5	*9.5
New Orleans, La.	5.75	8.25	8.5	*9
Lake Charles, La.	6.25	8.75	8.5	*9
Shreveport, La.	5.5	8	8.5	*9
Lafayette, La.	6.5	9	8.5	*9
Bristol, Tenn.	9.75	10.25	8.5	12
Chattanooga, Tenn.	9	8.85	8.5	12
Knoxville, Tenn.	9.5	11.5	8.5	12.5
Memphis, Tenn.	7.5	9.5	8.5	11
Nashville, Tenn.	8.5	9	8.5	11

*New Orleans kerosine price is ex 1c parish tax, and all Louisiana kerosine prices are ex 1c state tax.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w.

Humble Oil & Refining Co.

Humble Motor Fuel (*Regular Grade*)

	Tank Truck	Retail	Gasoline Taxes	Kerosine T.W.
Dallas, Tex.	6	10	5.5	6
Ft. Worth, Tex.	6	10	5.5	7
Houston, Tex.	7	11	5.5	8
San Antonio, Tex.	7	11	5.5	8

Thriftane (Leaded, 67 Octane, Purple Gasoline)

Dallas	5	8	5.5
Ft. Worth	5	8	5.5
Houston	5	8	5.5
San Antonio	5	8	5.5

74 Octane Aviation Gasoline, Clear

	Tank Car
FOB Baytown, Tex.	8.5

*To all classes of dealers & consumers.

The Texas Co.

	Gasoline—Dealer Fire-Chief (*Regular*)	T.W. Indian (*3rd Grade*)	Gasoline Taxes
Dallas, Tex.	6	5	5.5
Ft. Worth, Tex.	6	5	5.5
Wichita Falls, Tex.	7	5	5.5
Amarillo, Tex.	7	5	5.5
Tyler, Tex.	7	5	5.5
El Paso, Tex.	9	8	5.5
San Angelo, Tex.	7	5	5.5
Waco, Tex.	6.5	4.5	5.5
Austin, Tex.	7	5	5.5
Houston, Tex.	7	5	5.5
San Antonio, Tex.	7	5	5.5
Port Arthur, Tex.	7	5	5.5

Continental Oil

	Conoco Bronz-z-z (*Regular*) T.W.	Demand (*3rd Grade*)	Gasoline Taxes	Kerosine T.W.
Denver, Col.	9	8	5.5	10.5
Grand Junction, Col.	11	10	5.5	12.5
Pueblo, Col.	10	8	5.5	9
Casper, Wyo.	11	10	5.5	11.5
Cheyenne, Wyo.	9	8	5.5	11
Billings, Mont.	10	9	6.5	12
Butte, Mont.	9	8	6.5	13
Great Falls, Mont.	9	8	6.5	12
Helena, Mont.	9	8	6.5	12.5
Salt Lake City, Utah	10.5	9.5	5.5	14
Boise, Ida.	*12.1	11.1	6.5	16
Twin Falls, Ida.	*13.1	*12.1	6.5	16.5
Albuquerque, N. M.	9	8	*7	9.5
Roswell, N. M.	7	6	*7	8
Santa Fe, N. M.	9.5	8.5	*7.5	9.5
Ft. Smith, Ark.	8	6.75	5.5	6.5
Little Rock, Ark.	8	5.5	8	8
Texarkana, Ark.	8	5.5	5.5	6
Muskogee, Okla.	8	7	5.5	7
Oklahoma City, Okla.	6	5.5	5.5	6.5
Tulsa, Okla.	7	6	5.5	6

Conoco Special Gasoline (Aviation)

	T.W.	Gasoline Taxes
Denver, Colo.	13.5	5.5
Cheyenne, Wyo.	15.5	5.5
Helena, Mont.	15.5	6.5
Salt Lake City, Utah	18	5.5
Albuquerque, N. M.	14	*7

*Taxes: In gasoline tax column are included these city taxes—Albuquerque and Roswell, 0.5c; Santa Fe 1c. Idaho prices include 0.1c to cover 1-mill tax for toll bridges.

S. O. California

Standard Gasoline (*Regular Grade*)

	Tank Truck	Retail	Gasoline Taxes	Kerosine T.W
San Francisco, Cal.	12	13	4.5	11.5
Los Angeles, Cal.	11.5	12.5	4.5	10
Fresno, Cal.	13	14	4.5	12.5
Phoenix, Ariz.	14	15	6.5	*12.5
Reno, Nev.	14	15	5.5	13.5
Portland, Ore.	12.5	13.5	6.5	13.5
Seattle, Wash.	12.5	13.5	6.5	13.5
Spokane, Wash.	14	15	6.5	16.5
Tacoma, Wash.	12.5	13.5	6.5	13.5

Flight Gasoline (*Third Grade*)

San Francisco, Cal.	10	11	4.5	....
Los Angeles, Cal.	9.5	10.5	4.5	....
Fresno, Cal.	11	12	4.5	....
Reno, Nev.	12	13	5.5	....
Phoenix, Ariz.	11	12	6.5	....
Portland, Ore.	10.5	11.5	6.5	....
Seattle, Wash.	10.5	11.5	6.5	....
Spokane, Wash.	12	13	6.5	....
Tacoma, Wash.	10.5	11.5	6.5	....

Stanavo Aviation Gasoline

Phoenix, Ariz.	17.5	..	6.5	....
Los Angeles, Cal.	15	..	4.5	....
San Francisco, Cal.	15.5	..	4.5	....
Reno, Nev.	17.5	..	5.5	....
Portland, Ore.	16	..	6.5	....
Seattle, Wash.	16	..	6.5	....
Spokane, Wash.	19	..	6.5	....

*Taxes: Arizona kerosine prices are ex 5c state tax.

Discounts:

To 100% dealers—3c off t.w. on Standard and Stanavo Aviation; 2c off t.w. on Flight.

Canada

PRICES OF IMPERIAL OIL LTD.

Per Imperial Gallon, which is 1.2 U. S. Gallons

3-Star Imperial Gasoline (*Regular Grade*)

	T.W.	Gasoline Taxes	Kerosine T.W.
Hamilton, Ont.	16.5	8	17
Toronto, Ont.	16.5	8	17
Brandon, Man.	21	7	22.50
Winnipeg, Man.	20.5	7	22.5
Regina, Sask.	18	7	20
Saskatoon, Sask.	21	7	23
Edmonton, Alta.	18	7	20
Calgary, Alta.	16	7	18
Vancouver, B. C.	16	7	23
Montreal, Que.	16	8	16.5
St. John, N. B.	14.50	10	18
Halifax, N. S.	14.50	10	18

Discounts: Gasoline—Maritime Provinces—undivided & divided dealers, t.w. price; British Columbia—undivided and divided dealers, 2c off t.w. price; balance of territory—undivided dealers, 1c off t.w. price, divided dealers, t.w. price.

Price Changes

(These changes have been made in price tables)

S. O. New Jersey—Esso:

Charlotte dealer t. w. cut 0.5c, Nov. 15.

S. O. New Jersey—Kerosine:

Atlantic City and Newark dealer t. w. up 0.2c, Nov. 22.

S. O. Ohio—Sohio X-70:

Portsmouth resellers and s. s. prices cut 0.5c and 1c, respectively, May 4; Portsmouth prices have been incorrect in NPN since May 8th issue.

S. O. Kentucky—Crown and Standard:

Paducah cut 1c, Nov. 21.
Vicksburg and Pensacola cut 0.5c, Nov. 15 and Nov. 14, respectively.
Montgomery Crown only cut 0.5c, Nov. 14.

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates as given

EASTERN & CENTRAL STATES FIELDS

PENNSYLVANIA GRADE

Posted by Jos. Seep Purch. Agency (Nov. 12, 1940)

Bradford-Allegany $2.00
Southwest Penna $1.65
Eureka (West Va.) $1.59
Corning, O. (Nov. 4, 1939) $1.12

Posted by Tide Water Assoc. Oil Co. (Nov. 12, 1940)

Bradford-Allegany $2.00

Posted by The Pennzoil Co. (Nov. 12, 1940)

National Transit $1.93*

Posted by Valvoline Pipe Lines (Nov. 12, 1940)

Bradford (Elk & McKean Counties, Pa.) $2.00
Warren, Forest, Venango, Clairon & Butler Counties, Pa $1.93
Allegheny, Beaver, Washington & Greene Counties, Pa $1.65
West Virginia $1.59
South Eastern Ohio $1.55

*Applies to Cochran, Franklin, Hamilton & Doolittle districts; prices in other lower districts range down to $1.88 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co. (Aug. 24, 1940)

Midland, Midland County $1.12
Sherman $1.07
Clare-Freeman $1.07

Posted by Simrall Corp. (Aug. 24, 1940)

Crystal, Greendale, Porter, Vernon and Wise ... $1.12
Beaverton, Buckeye, Bentley, Edenville $1.10
Freeman and Redding $1.07
Arenac $0.92
West Branch $0.92

Posted by Sohio Corp. (Michigan Division)

Allegan & Kent Counties (Aug. 24, 1940) $1.18
Van Buren County (Nov. 1, 1940) $1.18

Posted by Bay Pipe Line Corp. (Aug. 24, 1940)

Bentley and Buckeye $1.10
Saginaw and Wise .. $1.12 Clare $0.81

ILLINOIS-INDIANA-KENTUCKY

Posted by Sohio Corp.

Illinois Basin, including Griffin pool (Aug. 21, '40) $1.15
Carmi, Storms, Ill. area (Nov. 1, '40) 1.05
Birk City, Ky. area (Aug. 21, '40) 1.05
Corydon, Ky. area, Henderson (Aug. 21, '40) ... 1.05

Posted by Ohio Oil Co.

Illinois Basin (Aug. 21, '40) $1.15
Illinois & Western Indiana (Aug. 23, '40) 1.00

Posted by Carter Oil Co. (Aug. 21, '40)

Louden, Fayette Co. Ill. $1.15

Posted by Mohawk Oil Lines, Inc. (Aug. 21, '40)

So. Illinois heavy .. $1.05 Light $1.15

Posted by Ashland Oil & Transp. Co.

Somerset oil in Ashland Lines, Ky.:
(Aug. 21, '40)

Big Sandy River .. $1.12 Kentucky River ... $1.20

Posted by Owensboro-Ashland Co.

Owensboro, Ky. area (Aug. 21, '40) $1.10

MID-CONTINENT

OKLAHOMA-KANSAS-NORTH TEXAS

(See below for companies posting and effective dates)

Gravity	Schedule No. 1	Schedule No. 2	Schedule No. 3	Schedule No. 4	Schedule No. 5
Below 21	$0.70	$0.60	....	....	$0.63
21-21.9	.72	.63	....	....	.65
22-22.9	.74	.66	....	....	.67
23-23.9	.76	.69	....	....	.69
24-24.9	.78	.72	....	....	.71
25-25.9	.80	.75	....	$0.58	.73
26-26.9	.82	.78	....	.63	.75
27-27.9	.84	.81	....	.68	.77
28-28.9	.86	.84	$0.86	.73	.79
29-29.9	.88	.87	.88	.78	.81
30-30.9	.90	.90	.90	.82	.83
31-31.9	.92	.92	.92	.86	.85
32-32.9	.94	.94	.94	.90	.87
33-33.9	.96	.96	.96	.96	.89
34-34.9	.98	.98	.98	.98	.91
35-35.9	1.00	1.00	1.00	1.00	.93
36-36.9	1.02	1.02	1.02	1.02	.95
37-37.9	1.04	1.04	1.04	1.04	.97
38-38.9	1.06	1.06	1.06	1.06	.99
39-39.9	1.08	1.08	1.08	1.08	1.01
40 & above	1.10	1.10	1.10	1.10	1.03

Above schedules posted by:

No 1: S. O. Indiana Oct 17, '38 in Okla. & Kans.

No. 2: Carter Oct. 13, '38 in Okla.; Magnolia Oct. 12, '38 in Okla.; Shell Oct. 22, '38 in Okla. & Kans.

No. 3: Continental Oct. 11, '38 in Okla. & Kans. with lowest grade Below 29; Texas Co. Oct. 12, '38 in Okla. & Kans.

No. 4: Sinclair-Prairie Aug. 31, '39 in Okla. & Kans.

No. 5: Stanolind Sept. 1, '40 in N. Texas; Continental Oct. 11, '38 in N. Texas; Texas Co. Oct. 12, '38 in N. & N. Central Texas; Magnolia Dec. 3, '38 in N. & N. Central Texas; Sinclair-Prairie July 16, '40 in Mexia & N. Central Texas. Texas Co.'s lowest grade is 28-28.9 at $0.79; Continental, Magnolia and Sinclair-Prairie postings begin with Below 29 at $0.79.

TEXAS & NEW MEXICO FIELDS

Posted by Humble Oil & Refining Co. (Oct. 2, '39)

Gravity	West Central Texas	East Central Texas	Gray County	Carson-Hutchinson Counties	Tomball, etc.	W. Texas & N. Mexico	Texas Gulf Cst. & Mirando	Anahuac-Dickinson	Refugio
Below 20	....	....	....	....	....	$0.53	$0.86	$0.81	$0.91
20-20.9	....	....	....	....	....	.55	.88	.83	.93
21-21.9	....	....	....	....	....	.57	.90	.85	.95
22-22.9	....	....	....	....	$0.95	.59	.92	.87	.97
23-23.9	....	$0.78	....	....	.97	.61	.94	.89	.99
24-24.9	$0.71	.80	....	....	.99	.63	.96	.91	1.01
25-25.9	.73	.82	....	....	1.01	.65	.98	.93	1.03
26-26.9	.75	.84	....	....	1.03	.67	1.00	.95	1.05
27-27.9	.77	.86	....	....	1.05	.69	1.02	.97	1.07
28-28.9	.79	.88	$0.72	$0.67	1.07	.71	1.04	.99	1.09
29-29.9	.81	.90	.74	.69	1.09	.73	1.06	1.01	1.11
30-30.9	.83	.92	.76	.71	1.11	.75	1.08	1.03	1.13
31-31.9	.85	.94	.78	.73	1.13	.77	1.10	1.05	1.15
32-32.9	.87	.96	.80	.75	1.15	.79	1.12	1.07	1.17
33-33.9	.89	.98	.82	.77	1.17	.81	1.14	1.09	1.19
34-34.9	.91	1.00	.84	.79	1.19	.83	1.16	1.11	1.21
35-35.9	.93	1.02	.86	.81	1.21	.85	1.18	1.13	1.23
36-36.9	.95	1.04	.88	.83	1.23	.87	1.20	1.15	1.25
37-37.9	.97	1.06	.90	.85	1.25	.89	1.22	1.17	1.27
38-38.9	.99	1.08	.92	.87	1.27	.91	1.24	1.19	1.29
39-39.9	1.01	1.10	.94	.89	1.29	.93	1.26	1.21	1.31
40 & above	1.03	1.12	.96	.91	1.31	.95	1.28	1.23	1.33

W. Central Tex. includes crudes purchased in Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, Throckmorton & Young Cos., Tex.

E. Central Tex. includes crudes purchased in Anderson, Cherokee, Limestone & Navarro Cos., Tex.

W. Tex. & N. Mex. includes crudes purchased in Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler & Yoakum Cos., Tex. & Lea Co., N. Mex.

Tex. Gulf Coast includes crudes purchased in Goose Creek, Sugarland, Thompsons, Mykawa, Amelia, Webster & Clear Lake fields.

Anahuac-Dickinson includes crudes purchased in Gillock, Cedar Point, Fairbanks, Turtle Bay, Hull, Pierce Junction & Raccoon Bend (Shallow Sand) fields.

Refugio includes crudes purchased in Saxet, East White Point, Greta, O'Connor-McFadden, Taft, Plymouth & Tom O'Connor fields.

Mirando includes crudes purchased in Duval, Jim Hogg, Webb & Zapata Cos., Tex. & in Heyser & Placedo fields

Postings for Raccoon Bend (Deep Sand) & Satsuma crudes are same as for Tomball.

East Texas $1.10
Van ..... .93
Pecos ..... .78
Talco $0.65
Conroe 1.27
Hardin 1.10
Flour Bluff & Jim Wells Cos. $1.23
Salt Flat, Darst Creek, Hilbig, Carroll, Clark & Zoboroski ..... .96

MAGNOLIA PETROLEUM CO.

Gray, Carson & Hutchinson Cos., Tex.—Dec. 3, '38—same as Humble.

Tomball, Tex.—Dec. 3, '38—same as Humble.

West Texas—Oct. 12, '38, in Crane, Glasscock, Howard, Mitchell, Upton & Winkler Cos. — same as Humble except Magnolia begins with Below 25 at $0.63.

N. Mexico—Oct. 15, '39, in Lea Co. — same as Humble except Magnolia begins with Below 25 at $0.63 and ends with 36 & above at $0.87.

Mirando, Tex.—Oct. 2, '39—same as Humble.

Beaumont, Tex.—Oct. 2, '39—same as Humble Texas Gulf Coast.

Cass & Panola Cos., Tex.—Oct. 12, '38—Below 25 grav. oil at $0.73, plus 2c per degree of gravity to top of 40 & above at $1.05.

Following Tex. postings Oct. 12, '38:

East Texas $1.10
Darst Creek ..... .96
Luling ..... .87
Lytton Springs ..... .99
Cleveland (Liberty Co.) $1.14
Hardin (Liberty Co.) 1.02

SINCLAIR-PRAIRIE OIL MARKETING CO.

Gray, Carson & Hutchinson Cos., Tex.—
Aug. 31, '39—same as Humble.

West Texas & Lea Co., N. Mex.—Aug. 31, '39—same as Humble, except Sinclair begins with Below 25 at $0.63 and ends with 36 & above at $0.87.

Texas Gulf Coast—Oct. 3, '39—same as Humble.

East Texas (Oct. 2, '39) $1.10
Eddy Co., N. Mex. (Aug. 31, '39) .. .77
Long Lake, in Anderson, Leon & Freestone Cos., Tex. (Jan. 20, '40) $1.08

STANOLIND OIL PURCHASING CO.

Tomball, Tex.—Aug. 29, '39—same as Humble except Stanolind begins with Below 29 at $1.07.

Texas Gulf Coast—Oct. 3, '39, in Clinton field—same as Humble Texas Gulf Coast except Stanolind begins with Below 21 at $0.88.

West Beaumont, Jefferson Co., Tex.—Oct. 2, '39—same as Humble Texas Gulf Coast.

THE TEXAS CO.

(Effective Oct. 2, '39)

Panhandle, Tex.—Sweet crude same as Humble's Gray Co. except Texaco begins with 34-34.9 at $0.84. Sour crude same as Humble's Carson & Hutchinson Cos. except Texaco begins with 34-34.9 at $0.79.

West Texas & Lea Co., N. Mex.—Same as Humble except Texaco begins with Below 26 at $0.65 and ends with 36 & above at $0.87.

Texas Gulf Coast—Same as Humble except Texaco ends with 34 & above at $1.16.

Mirando-Duval, Tex.—Same as Humble except Texaco ends with 28 & above at $1.04.

Refugio, Tex.—Same as Humble except Texaco ends with 28 & above at $1.09.

Following Tex. postings Oct. 12, '38:

East Texas $1.10
Darst Creek ..... .96
Cass Co. $1.05
Conroe 1.27

SHELL OIL CO., INC.

West Texas & Lea Co., N. Mex.—Aug. 29, '39, & Yoakum Co., Tex. Sept. 1, '39—same as Humble except Shell ends with 36 & above at $0.87.

Fisher Co., Tex.—Aug. 29, '39—Below 25 grav. at $0.68, plus 2c per degree of gravity up to 40 & above at $1.00.

Following Tex. postings Oct. 5, '39:
East Texas $1.10
Livingston area, Polk Co. 1.10

Following Tex. postings Aug. 29, '39:
Pecos Co., except Yates Shallow pool $0.78
Pecos Co., Yates Shallow pool ..... .65

CONTINENTAL OIL CO.

Eddy Co., N. Mex.—Apr. 22, '40—Begins with 28-28.9 at $0.61, plus 2c per degree gravity up to 40 & above at $0.85.

Mirando, Tex.—Oct. 2, '39—same as Humble.

Refugio, Tex.—Oct. 2, '39—same as Humble.

PAN AMERICAN PIPE LINE CO.

Hastings & So. Houston, Tex. crudes—Oct. 1, '40—same as Humble Texas Gulf Coast except Pan Am. begins with Below 21 at $0.88.

Cayuga, Anderson Co., Tex.—Oct. 2, '39—$0.78.

CRUDE OIL PRICES *(Continued from preceding page)*

CALIFORNIA *Posted by Standard Oil of California*

All gravities above those quoted take highest price offered in the field. Prices effective Feb. 1, 1940

Gravity	Signal Hill (Long Beach) and others*	Seal Beach	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley Canal	Colea Levee Richfield Western	Mountain View and others**	Elk Hills	Buena Vista Hills, Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria Val. (Union Oil, Sept. 1 '39)
14-14.9	$0.65	$0.64	$0.63	$0.64	$0.65	$0.61	....	$0.65	$0.61	$0.61	$0.62	$0.63	....	....	....	$0.60	$0.60	$0.60	$0.60	$0.60	....	$0.42
15-15.9	.65	.64	.63	.64	.65	.61	....	.65	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	.44
16-16.9	.65	.64	.63	.64	.65	.61	....	.65	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	.45
17-17.9	.65	.64	.63	.68	.65	.61	....	.65	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	.46
18-18.9	.65	.64	.63	.71	.65	.65	....	.68	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	....
19-19.9	.69	.64	.67	.75	.70	.69	....	.72	.61	.65	.62	.63	....	....	....	.60	.64	.64	.64	.61	$0.60	....
20-20.9	.73	.64	.72	.79	.76	.74	....	.75	.65	.69	.62	.67	....	....	....	.60	.69	.69	.69	.62	.60	....
21-21.9	.78	.64	.76	.82	.81	.78	....	.79	.69	.73	.62	.72	$0.63	....	....	.64	.74	.74	.74	.66	.60	....
22-22.9	.82	.69	.81	.86	.86	.82	....	.82	.73	.77	.66	.76	.63	....	....	.68	.79	.79	.78	.70	.63	....
23-23.9	.86	.75	.85	.89	.92	.86	$0.71	.86	.78	.82	.71	.81	.67	....	....	.71	.84	.84	.82	.74	.67	....
24-24.9	.90	.80	.90	.93	.97	.90	.77	.89	.82	.86	.75	.85	.72	....	....	.75	.89	.89	.86	.78	.71	....
25-25.9	.95	.86	.94	.96	1.02	.95	.82	.93	.86	.90	.80	.89	.77	....	....	.79	.94	.94	.90	.82	.75	....
26-26.9	.99	.91	.99	1.00	1.08	.99	.88	.96	.90	.94	.84	.94	.82	....	....	.83	.99	.99	.95	....	....	....
27-27.9	1.03	.97	1.03	1.04	....	1.03	.94	1.00	.94	.98	.89	.98	.87	$0.83	$0.92	.87	1.04	1.04	.99	....	....	....
28-28.9	1.07	1.02	1.07	1.07	....	1.07	.99	1.03	.98	....	.93	1.02	.91	.86	.96	.91	1.09	1.09	1.03	....	....	....
29-29.9	1.10	1.07	1.11	1.10	....	1.10	1.04	1.06	1.02	....	.98	1.06	.96	.90	.99	.95	1.14	1.14	1.07	....	....	....
30-30.9	1.14	1.12	1.15	1.14	....	1.14	1.09	1.09	....	....	1.02	1.10	1.01	.94	1.02	.99	1.19	1.19	1.11	....	....	....
31-31.9	....	....	....	1.17		1.17	1.14	Elwood Terrace			1.07	1.14	1.05	.98	1.06	1.02	1.24	1.24				....
32-32.9	....	....	....	1.20		1.20	1.19	F. o. b. ship.			1.11	1.18	1.09	1.02	1.09	1.06	1.29	1.29	Kettleman Hills			....
33-33.9	....	....	....	....		....	1.24	....	$1.21	....	1.15	1.22	1.14	1.06	1.13	1.10	1.34	1.34	....	$1.12	....	....
34-34.9	....	....	....	....		....	1.29	....	1.25	....	1.20	1.26	1.19	1.10	1.16	1.14	....	....	....	1.17	....	....
35-35.9	....	....	....	....		....	1.34	....	1.29	....	1.24	....	1.23	1.14	1.20	....	....	....	....	1.21	....	....
36-36.9	....	....	....	....		....	1.39	....	1.33	....	1.28	....	1.27	1.18	1.23	....	....	....	....	1.25	....	....
37-37.9	....	....	....	....		....	1.44	....	1.37	....	1.33	....	1.31	1.22	1.26	....	....	....	....	1.29	....	....
38-38.9	....	....	....	....		....	1.49	....	....	....	1.37	....	1.36	1.25	1.30	....	....	....	....	1.33	....	....
39-39.9	....	....	....	....		....	1.54	....	....	....	1.42	....	....	1.29	1.34	....	....	....	....	1.38	....	....
40-40.9	....	....	....	....		....	1.59	....	....	....	1.46	....	....	1.33	1.37	....	....	....	....	....	....	....
41-41.9	....	....	....	....		....	....	....	....	....	1.50	....	....	1.37	1.40	....	....	....	....	....	....	....
42-42.9	....	....	....	....		....	....	....	....	....	1.54	....	....	1.41	1.44	....	....	....	....	....	....	....
43-43.9	....	....	....	....		....	....	....	....	....	1.59	....	....	1.45	1.47	....	....	....	....	....	....	....
44-44.9	....	....	....	....		....	....	....	....	....	1.63	....	....	1.49	1.51	....	....	....	....	....	....	....
45-45.9	....	....	....	....		....	....	....	....	....	1.67	....	....	1.53	1.54	....	....	....	....	....	....	....
46-46.9	....	....	....	....		....	....	....	....	....	1.71	....	....	1.57	1.57	....	....	....	....	....	....	....
47-47.9	....	....	....	....		....	....	....	....	....	....	....	....	1.61	....	....	....	....	....	....	....	....
48-48.9	....	....	....	....		....	....	....	....	....	....	....	....	1.64	....	....	....	....	....	....	....	....

FOB Standard Pipeline

*El Segundo prices same as Signal Hill. Wilmington prices same as Signal Hill, except below 19 gravity prices are: 14-16.9, $0.60; 17-17.9, $0.62; 18-18.9, $0.64.
**Includes Newhall, McKittrick, Kern River, Round Mountain and Kern Front, schedule for which ends with 19-19.9. Mountain View schedule begins with 19-19.9.

LOUISIANA-ARKANSAS

Posted by S. O. Louisiana, Oct. 17, '40

Gravity	Bunkie, La. etc.	Caddo, La. etc.	Darrow, La. etc.	University, La. (Baton Rouge)	Atlanta, Ark. etc.
Below 21	....	....	$0.75	$0.91	$0.55
21-21.9	....	....	.77	.93	.57
22-22.9	....	....	.79	.95	.59
23-23.9	....	....	.81	.97	.61
24-24.9	....	....	.83	.99	.63
Below 25	$0.83	$0.73	....	....	....
25-25.9	.85	.75	.85	1.01	.65
26-26.9	.87	.77	.87	1.03	.67
27-27.9	.89	.79	.89	1.05	.69
28-28.9	.91	.81	.91	1.07	.71
29-29.9	.93	.83	.93	1.09	.73
30-30.9	.95	.85	.95	1.11	.75
31-31.9	.97	.87	.97	1.13	.77
32-32.9	.99	.89	.99	1.15	.79
33-33.9	1.01	.91	1.01	1.17	.81
34-34.9	1.03	.93	1.03	1.19	.83
35-35.9	1.04	.94	1.04	1.20	.84
36-36.9	1.05	.95	1.05	1.21	.85
37-37.9	1.06	.96	1.06	1.22	.86
38-38.9	1.07	.97	1.07	1.23	.87
39-39.9	1.08	.98	1.08	1.24	.88
40 & above	1.09	.99	1.09	1.25	.89

Bunkie, La. schedule includes Eola and Olla, La.

Caddo, La. schedule includes De Soto, Homer, Sabine & Sugar Creek, La., Fouke & Miller County, Ark.

Darrow, La. schedule includes, Bayou des Glaise, Bayou Mallet, Choctaw, Jeanerette, Lirette, No. Crowley, Port Barre, Potash, Roanoke & St. Martinville, La.

Atlanta, Ark. schedule includes Buckner, Magnolia, Village & Schuler (Jones Sand Oil), Ark.

Cotton Valley:
Crude..... $1.05
Distillate..... 1.10
Holloway Sand
Crude..... 1.10
Rodessa..... $1.05
Shreveport (Cross Lake)..... 1.05
Smackover (Heavy) .73
Dorcheat, Big Creek, & McKamie (Sour Distillates)..... .95

(Continued in next column)

LOUISIANA-ARKANSAS (Cont'd)

Posted by Shell Oil Co., Inc. (Aug. 29, '39) Iowa District, La.

Below 18	$0.75	23-23.9	$0.89	29-29.9	$1.04
18-18.9	.77	24-24.9	.92	30-30.9	1.06
19-19.9	.79	25-25.9	.95	31-31.9	1.08
20-20.9	.81	26-26.9	.98	32-32.9	1.10
21-21.9	.83	27-27.9	1.00	33-33.9	1.12
22-22.9	.86	28-28.9	1.02	34 & above	1.14

Black Bayou & White Castle Districts, La.—same as Iowa District, except Black Bayou, etc. begins with Below 20 at $0.79.

Gibson Field, Terrebonne Parish, La..... $1.04
Happytown Field, St. Martin, Parish, La. (Jan. 12, '40)..... 1.00

Posted by Arkansas Fuel Oil Corp.

Urania, La. (Oct. 14, '38)..... $0.89

Posted by Continental Oil Co.

Tepetate & Ville Platte, La. (Oct. 11, '38).... $1.03

Abbeville, La. (Jan. 1, '39)

Below 36	$0.92	37-37.9	$0.96	39-39.9	$1.00
36-36.9	.94	38-38.9	.98	40 & above	1.02

Posted by Caddo Crude Oil Purchasing Corp.

Allison area, Shrv'prt. field (Aug. 14, '39)..... $0.95

Lisbon, N. La. (Sept. 14, '39)

27-27.9	$0.66	30-30.9	$0.72	33-33.9	$0.78
28-28.9	.68	31-31.9	.74	34-34.9	.80
29-29.9	.70	32-32.9	.76	35 & above	.82

CANADIAN FIELDS

Posted by Imperial Oil Limited Western Ontario (Nov. 6, 1939)

Petrolia..... $2.10 Oil Springs..... $2.17

Turner Valley (Prices FOB producer's tankage) Crude Oil (Sept. 12, 1940)

33-33.9	$1.08	44-44.9	$1.30	55-55.9	$1.52
34-34.9	1.10	45-45.9	1.32	56-56.9	1.54
35-35.9	1.12	46-46.9	1.34	57-57.9	1.56
36-36.9	1.14	47-47.9	1.36	58-58.9	1.58
37-37.9	1.16	48-48.9	1.38	59-59.9	1.60
38-38.9	1.18	49-49.9	1.40	60-60.9	1.62
39-39.9	1.20	50-50.9	1.42	61-61.9	1.64
40-40.9	1.22	51-51.9	1.44	62-62.9	1.66
41-41.9	1.24	52-52.9	1.46	63-63.9	1.68
42-42.9	1.26	53-53.9	1.48	64 & over	1.70
43-43.9	1.28	54-54.9	1.50		

Absorption Gasoline (Jan. 5, 1938)

90% Rec., 20 lb. Reid v.p..... $1.94
90% Rec., 17 lb. Reid v.p..... $2.08

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co. (Oct. 11, '38)

Salt Creek (except Tensleep crude), Midway and Dutton Creek, Wyo., same schedule as S. O. Indiana posts in Okla.-Kans., ranging from $0.86 to $1.10, which see in next column.

Tensleep crude.... $0.646
Iles, heavy..... .92
Elk Basin, light... .90
Grass Creek, light. .90
Frannie, light..... $0.55
Grass Creek, heavy .40
Hamilton Dome, Wyo..... .35
Frannie, heavy..... .42

Posted by Ohio Oil Co. (Oct. 11, '38)

Elk Basin, Wyo.. $0.90
Grass Creek, light. .90
Rock Creek..... $1.00
Lance Creek..... .77
Dry Creek, Mont..... .92
Grass Creek, heavy (April 1, '39)..... .40
Sunburst, Mont. (Nov. 16, '37)..... .90

Posted by Continental Oil Co. (Oct. 11, '38) Ft. Collins & Wellington, Col.

Below 29	$0.81	32-32.9	$0.89	36-36.9	$0.97
29-29.9	.83	33-33.9	.91	37-37.9	.99
30-30.9	.85	34-34.9	.93	38-38.9	1.01
31-31.9	.87	35-35.9	.95	39-39.9	1.03
				40 & above	1.05

Canon City & Florence, Col..... $0.90
Cat Creek, Mont.. 1.10
Big Muddy, Wyo.. $0.98
Lance Creek, Wyo. 0.77

CLASSIFIED

Address all Blind Box Number ads to National Petroleum News, 530 Penton Building, Cleveland, Ohio, unless otherwise specified.

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· PERSONALS ·

In connection with the recent move combining Shell Oil Co.'s eastern and mid-western marketing and producing units, several officials who previously headed their respective departments in either the company's St. Louis or eastern territories, have been placed in charge of all territory east of the Rocky Mountains.

Dr. Ralph T. Goodwin is in complete charge of tractor, diesel, domestic, industrial and bunker fuels, kerosine and petroleum coke sales. He has been in charge of fuel oil sales for Shell's eastern territory since 1936.

Moving from St. Louis, **Benjamin G. Symon** has been made manager of Shell's technical products department. He has charge of sales of naphthas, solvents and other petroleum products for chemical, technical and household use. For the past 3 years, he has been head of the St. Louis ,technical products department.

A. J. M. Hamon, who since 1936 has headed Shell's aviation department in the eastern territory, is now in charge of aviation activities east of the Rockies. Mr. Hamon joined Shell in 1930, and has been connected with its aviation department for the past 15 years.

H. L. Curtis has been made sales promotion and advertising manager, and will be in charge of activities east of the Rockies. For the past 2 years, he has been advertising manager of the eastern marketing unit and before that he was sales manager of Shell's metropolitan New York division.

Starting with Shell in 1926 as an asphalt salesman in New Orleans, La., **David Waxman** worked his way up to manager of asphalt sales at the company's St. Louis office in 1929. He now has charge of asphalt sales from the Rockies east.

After gaining lubrication sales experience in California and the Hawaiian Islands, **Joseph H. Lee** has been made head of Shell's lubrication department and has charge of motor oils, industrial lubricants and greases, for all territory east of the Rockies. He has been manager of the eastern marketing department since last year. Pictures of these men are shown at bottom of page.

* * *

Harold K. Seywert has joined Maritime Petroleum Corp. as manager of bulk sales. Mr. Seywert was previously associated with Canfield Oil Co. and for the past 12 years had represented Canfield as sales manager of the company's Jersey City, N. J. plant.

* * *

Scattered through the list of winners in the Tulsa Garden Club's flower show at Philbrook Art Museum is the name of **Mrs. C. E. Buchner,** wife of the manager of Independent Petroleum Assn. of America. Mrs. Buchner's arrangement of the chrysanthemums grown in the Buchner's back yard won several "firsts." And while the entries were placed in the name of Mrs. Buchner, we understand "Buck" Buchner had a hand in raising the "mums" too. The part he played is rather indefinite.

* * *

At a special dinner in the dining room of Standard Oil Co. of New Jersey's Bayonne refinery, a 30-year service emblem was presented to **George H. Mettam,** assistant general manager of the company's refineries, by **J. R. Carringer,** general manager. Guests were present from the New Jersey works, and the company's New York offices.

* * *

J. E. Skehan, manager of all Esso Marketers domestic sales divisions, recently was made a director of the Standard Oil Co. of New Jersey.

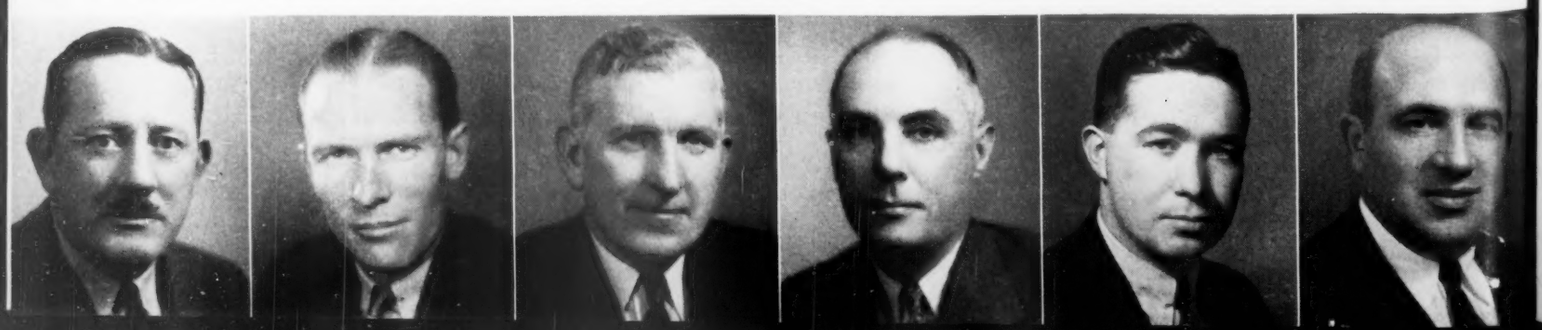
Mr. Skehan started with the Jersey company as a lubricating clerk at Newark, N. J. in 1902. He was made vice-president and general sales manager of Standard Oil Co. of Louisiana and moved to New Orleans in 1931. Within 2 years, he was back at 26 Broadway as wholesale manager for the four domestic marketing companies. In 1936, he became sales manager for the southern divisions, and later the New York and New England territories were added to his responsibilities. Mr. Skehan worked under General Sales Manager **R. T. Haslam.**

* * *

Directorate of the Texas Big Bend Park Assn. is dotted with names of outstanding Texas oil men. The association was organized to purchase 800,000 acres of land for development of a national park on the Big Bend of the Rio Grande River, "where Texas dips down into romantic old Mexico."

Amon G. Carter of Fort Worth, independent producer and discoverer of the Wasson, Texas pool, is president of the park association.

Directorate includes the following oil men: **J. S. Bridwell,** Wichita Falls, president of the oil producing firm of Bridwell Oil Co.; **J. K. Hughes,** Mexia, pioneer oil man and president of J. K. Hughes Oil Co.; **Judge J. C. Hunter,** Abilene, director of A.P.I. and I.P.A.A. and member of the Interstate Oil Compact Commission; **Brigadier General Walter B. Pyron,** Houston, vice-president of Gulf Oil Corp. and commander of the 56th Cavalry Brigade of Texas National Guards; **Charles F. Roeser** of Fort Worth, director of A.P.I. and I.P.A.A. and president of Roeser and Pendleton; and **J. D. Sandefer, Jr.** of Breckenridge, independent operator, director of I.P.A.A. and past president of West-Central Texas Oil & Gas Assn.

"The oil men of Texas are manifesting the same interest in our project as is customary for them to take in all civic matters," writes T.B.B.P.A. Executive Secretary **Harry Connelly.**

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